Supreme Court, U.S.
FILED
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No.

IN THE

Supreme Court of the United States

JOSEPH A. GENTILUOMO,
Petitioner,

v.

A BRUNSWICK BOWLING AND BILLIARDS CORPORATION
(individually and doing business as Brunswick Technology Ventures and as Quantum);
and
COLUMBIA 300, INC. (individually and doing business as Track, Inc.);
and
PIN BREAKER, INC.,
Respondents.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

APPENDIX

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UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

01-1364

JOSEPH A. GENTILUOMO

Plaintiff-Appellant,

v.

BRUNSWICK BOWLING AND BILLIARDS CORPORATION (individually and doing business as Brunswick Technology Ventures and as Quantum),

and

COLUMBIA 300, INC. (individually and doing business as Track, Inc.),

and

PIN BREAKER, INC.,

Defendants-Appellees,

and

ROTO-GRIP, INC.,

Defendant.

ORDER

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

ORDER
Before LOURIE, Circuit Judge, PLAGER, Senior Circuit Judge, and DYK, Circuit Judge.

A petition for rehearing having been filed by the APPELLANT,

UPON CONSIDERATION THEREOF, it is

ORDERED that the petition for rehearing be, and the same hereby is, DENIED.

The mandate of the court will issue on July 8, 2002.

FOR THE COURT,
S/
Jan Horbaly
Clerk

Dated: June 27, 2002

cc: Joseph Gentiluomo
William B. Nash
Stephen G. Kehoe
Michael O. Warnecke

GENTILUOMO V BRUNSWICK BOWLING, 01-1364
(DCT - 96-CV-0544)

Note: Pursuant to Fed. Cir. R. 47.6, this order is not citable as precedent. It is a public record.

APPEAL NO. 01-1364

In the
UNITED STATES COURT OF APPEALS
for the
FEDERAL CIRCUIT

JOSEPH A GENTILOUMO
Plaintiff-Appellant,

v.

BRUNSWICK BOWLING AND BILLIARDS CORPORATION
(individually and doing business as Brunswick Technology Ventures and as Quantum),

and

COLUMBIA 300, INC., (individually and doing business as Track, Inc.),

and

PIN BREAKERS, INC.
Defendants-Appellees

and

ROTO-GRIP, INC.,

Defendant

Appeal from the United States District Court for the Northern District of New York in 96-CV-544, Judge Lawrence E. Kahn.

REHEARING PETITION FOR PLAINTIFF-APPELLANT
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I. Introduction

This petition for rehearing is being filed under FRAP 40 and FCR 40, in response to the Appeal Court's opinion filed June 5, 2002.

II. The Argument - Points of Law Overlooked or Misapprehended by the Appeals Court

A. Law and Facts Misapprehended Regarding Claim Litigations and Cited Prior Art Teachings

The Appeals Court stated that it disagrees with Gentiluomo's weight reallocation argument. That argument is premised on supposed limitations that do not appear in the relevant claims. Gentiluomo contends that the phrase "fixed weight ball" as well as limitations

24(d) and 32(e) support the notion of weight relocation. We do not agree. The phrase "fixed weight ball denotes that the weight does not change over time. It thus does not carry with it the significance attributed to it by Gentiluomo. Moreover, limitations 24(d) and 32(e) convey merely an intended result, rather than structural limitations with respect to a given bowling ball. In any event, the claims do not require a bowling ball whose weight allocations change over time, and the prior art bowling balls of record clearly are "fixed weight balls" as the claims contemplate.

First, it must be ascertained that the Court is giving a wrong connotation to the phrase "fixed weight ball." A review of Gentiluomo's '614 patent will reveal that said phrase is associated with balls during the balls' design phase, not after the ball is constructed. Specifications may be used as a dictionary to determine the meaning of limitation in claim. In re Ogiue, 185 USPQ 277. For example, Col. 2, lines 5-8 of the '614 patent states that "This means that a fixed weight ball of lower moment of inertia will start pure rolling action sooner and poses greater total kinetic energy at the instant pure rolling commences. Col. 2, lines 57-62 states that "Ball moment of inertia in the instant invention is decreased when compared to a presently available prior art bowling ball of equal weight, by design-wise removing weight from the outer portion of said prior art ball and by various means design-wise redistributing said removed weight to the inner portion of the ball. Based on cited facts, it is apparent that the phrases fixed weight and variable weight balls are not associated with a ball after it is built. It is associated with the constructional concept used in arriving at a specific ball design. (See Gentiluomo brief at

4-6 and 24-25.)

Secondly, it must be ascertained that Gentiluomo's claimed invention definitely conveys the concept that weight is removed from the outer portion to within the inner portion of a fixed weight ball. It should be noted that when the material adjacent to the inner core is characterized as having a specific gravity of 1.195 to 0.38 for a specific fixed weight ball, weight must be moved during the ball's design phase from the outer to within the inner portion of a ball. For example, if you take a 16 pound ball having a specific gravity of 1.195 for the outer portion and then design-wise change the outer portion of a 16 pound ball to have a specific gravity of 0.38, it becomes readily apparent that weight must be design-wise moved from the outer to the inner portion of a ball in order to maintain the 16 pound weight. Also, claim limitation 24(d) is a functional limitation which discloses how the total kinetic energy output of a fixed weight ball is accomplished through a decrease in ball moment of inertia and an increase in inner core density. Ascription of claim that ascribes function to any of the things it specifies, is a limitation of the claim, and ignoring express functional limitation of claim would be to create a new claim and not interpret the claim granted. Butler et al v. Helms, 193 U.S.P.Q. 81, 82. Claim limitation 24(d) recites that ball moment of inertia of said fixed weight ball decreases with an increase in inner core density, to effectuate an increase in total kinetic energy output of said fixed weight ball. The only way the moment of inertia of a fixed weight ball will decrease with an increase in inner core density or weight, is to remove weight from the outer to within the inner portion of a ball during the ball's design phase. Based on all claim

limitations of claim 24 and 32, said claims explicitly and/or implicitly disclose the concept of design-wise removing weight from the outer portion to within the inner portion of a fixed weight ball to effectuate an increase in total kinetic energy output of a ball. All claim limitations must be considered in determining the claim's scope and manner of operation. General Electric Co. v. United States, 198 U.S.P.Q. 65; In re Boe & Duke, 184 U.S.P.Q. 38 (See Gentiluomo Brief at 23.)

B. Law and Facts Misapprehended Regarding the Issue of Criticality

Brunswick's alleged criticality issue does not apply to the '614 patent's claimed specific gravity range limitations, because the claimed ranges do not fall within, overlap, or touch an end point of the range disclosed by the prior art. It appears that the Court has misapprehended the facts disclosed in case laws In re Geisler, In re Huang, and In re Woodruff. These cases reveal that criticality must be proven when the claimed ranges fall within, overlap, or touch an end point of the range disclosed by the prior art. See the thorough analysis of said cases presented in Gentiluomo's brief at 11-14.

The Court stated that the law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. These cases have consistently held that in such a situation, the applicant must show that the particular range is "critical." In many cases, the claimed range and the prior art range overlapped, but in others they did not. In In re Geisler the examiner stated that

overlapping ranges have been held to be prima facie case of obviousness.

With regard to the Appeals Court citing of In re Aller, 220 F.2d 454; In re Hill, 284 F.2d 955; and Titanium Metals Corp. v. Banner, 778 F.2d 775; it should be noted that Brunswick did not base its case on cited case laws, and therefore neither the District Court nor Gentiluomo had the opportunity to review and comment on them. With the short time frame for filing a petition for panel rehearing, Gentiluomo does not have the time required to obtain copies of cited cases for proper review and comment.

The Appeals Court is requested to review Haynes International Inc. v. Jessop Steel Corp., 28 USPQ 2d at 1655. Footnote 3: The Board's position was consonant with the court's precedent, holding that when the difference between the claimed invention and the prior art is the range or value of a particular variable, then a prima facie rejection is properly established when the difference in range or value is minor. Citing In re Woodruff, 919 F.2d 1575, 1578 & Titanium Metals Corp. of America v. Banner, 778 F.2d 775, 783. In the case of In re Woodruff, Woodruff's claim 31 claimed a CO value of more than 5%, and the prior art of McGill claimed a CO value of 1-5%. However since McGill disclosed in his patent a carbon monoxide concentration of "about 1-5%," this allows for concentrations slightly above 5%, and therefore said disclosure allows for concentrations slightly above 5%. Based on this fact, the Board held that a value of the claimed McGill patent is roughly contiguous with a value of Woodruff's claim 31, and therefore claim 31 is obvious. (See Gentiluomo Brief at 14). Based on above cited Woodruff case law, and on the

fact that the prior art balls of Fab I and Randolph contain fixed density cover materials, said cover materials cannot convey to a person of ordinary skill in the art that Fab I' specific gravity is not 1.213, but about 1.213, such as to allow for a variance. Therefore, Gentiluomo's claimed end point value of 1.195 is definitely not contiguous with the prior art value of 1.213. A review of Gentiluomo's brief at 14 will reveal that the difference in range values between Gentiluomo's invention and the prior art is not minor. Note that Gentiluomo shows a sharp decreasing range of values away from the prior art specific gravity values. Based on cited facts, Gentiluomo is not required to show that the claimed range achieves unexpected results relative to the prior art range.

The Appeals Court stated that "Despite Gentiluomo's contrary characterization of In re Huang, the case did not involve overlapping ranges." Based on this statement, it is believed that the Court has misinterpreted the case law of In re Huang. (See Gentiluomo's Brief at 13-14 and his Reply Brief at 22.) The Court should note that a polyurethane thickness of 0.00454" greater overlaps a thickness of 0.0035" or 0.00454". The Court is requested to put a 1" block alongside of a 2" block and note that the thickness of the 2" block overlaps the 1" block. In re Huang states that "Because Huang does not contend that he has achieved unexpected results by increasing the thickness of the polyurethane layer, the Board properly concluded that the prior art grips in combination with Lau created a prima facie case of obviousness. The Court stated that according to their calculations, the thickness of the prior art ranges between 0.00355" and 0.00454", and the claimed value corresponds to 0.00576". Based on its calculations,

the Court stated that the ranges clearly do not overlap. Since Huang's invention has a polyurethane thickness of 0.00576", it becomes apparent that said thickness is greater than the prior art thicknesses of 0.00355" and 0.00454". With reference to Gentiluomo's Brief at 13, the depicted figure clearly shows that the 0.00576" thickness of Huang's invention overlaps the prior art thicknesses. Therefore, based on above facts, the case of Huang definitely involves overlapping ranges.

Dated: June 12, 2002

/s/_____
Joseph A. Gentiluomo, Pro Se

Note: Pursuant to Fed. Cir. R. 47.6, this order is not citable as precedent. It is a public record. The disposition will appear in tables published periodically.

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

01-1364

JOSEPH A. GENTILUOMO

Plaintiff-Appellant,

v.

BRUNSWICK BOWLING AND BILLIARDS CORPORATION
(individually and doing business as Brunswick Technology Ventures and as Quantum),

and

COLUMBIA 300, INC. (individually and doing business as Track, Inc.),

and

PIN BREAKER, INC.,

Defendants-Appellees,

and

ROTO-GRIP, INC.,

Defendant.

DECIDED: June 5, 2002

Before LOURIE, Circuit Judge, PLAGER, Senior Circuit Judge, and DYK, Circuit Judge.

LOURIE, Circuit Judge.

Joseph A. Gentiluomo appeals from the decision of the United States District Court for the Northern District of New York granting summary judgment of invalidity of Gentiluomo's U.S. Reissue Patent 34,614. Gentiluomo v. Brunswick Bowling and Billiards Corp., No. 96-cv-544 (N.D.N.Y. Nov. 1999). For the reasons set forth below, we affirm-in-part and reverse-in-part.

BACKGROUND

Mr. Gentiluomo is the sole inventor and owner of the '614 patent, which is directed to a bowling ball having an increased total kinetic energy output. According to the written description of the patent, the invention achieves that objective by concentrating more of the ball's mass toward the center of the ball, i.e., by decreasing the ball's moment of inertia, and thereby achieving a more favorable tradeoff of rotational kinetic energy for translational kinetic energy. '624 patent, col. 1, l. 55 to col.

2, l. 11. An embodiment of the bowling ball has an inner core surrounded by an encapsulated mass with an optional top weight mass adjacent to the inner core, as illustrated in Figure 2 of the patent, reproduced below:

Of the three independent claims in the original patent, two of them defined the inventive balls as having an inner core and an encapsulating mass with specific gravities (having units of weight per volume) in certain ranges. For example, original independent claims 1 and 12 recited, inter alia, that the inner core had a "minimum specific gravity of 0.1063 per pound of ball weight," '614 patent, col. 7, ll. 40-41, col. 8, ll. 24-25, and that the specific gravity of the molded encapsulating mass "range[d] downward to a minimum value of 0.38," id. at col. 7, ll 44-45; col. 8, ll. 28-29. The third independent claim in the original patent, claim 17, did not specify a specific gravity of the encapsulating mass, but, unlike claims 1 and 12, did require an "annular shaped (top) weight mass located closely around said inner core," id. at col. 8, ll. 57-58, as depicted by top weight mass 7 in Figure 2.

Shortly after the original patent issued, however, Gentiluomo became aware of prior art bowling balls having specific gravities of their inner cores and encapsulating masses within the ranges he had claimed. In particular, Gentiluomo measured the specific gravities of the encapsulating masses in a Randolph Classic Technica Silver Bullet II ("Randolph Classic") and a Faball I ("Fab 1") bowling ball to be 1.219 and 1.213, respectively. In his Reissue Application Declaration, Gentiluomo explained the relevance of those prior art balls as follows:

Based on the newly discovered prior

> art, it now appears that Applicant inadvertently claimed more than he was entitled to... Since the inventive concept of my invention was to relocate weight from the outer portion of prior art balls to within the center portion of the ball, in order to lower ball moment of inertia... the ball's encapsulating mass specific gravity must be made less than that of both the "Technica II Silver Bullet" and the Fab 1 balls in order to distinguish thereover.

Finding support in the original application for a specific gravity of the encapsulating mass up to 2.30, Gentiluomo chose to file new claims reciting an upper limit of 1.195, slightly below the values measured in the Randolph Classic and Fab I balls. The '614 patent then issued with new claims replacing all of the original claims. Two of the new independent claims, claims 24 and 32, require that the specific gravity of material in the encapsulating mass be in the range "from 1.195 to 0.38 for a specific fixed weight ball." Id. At col. 9, II. 21, 58. A third new independent claim, claim 45, rather than reciting a range for the encapsulating mass specific gravity, requires "an annular shape weight mass located closely around said inner core," id. At col. 10, II. 47-48, similar to original claim 17.

Gentiluomo sued the defendants (collectively "Brunswick") in the district court, alleging infringement of claims 24, 32, 40, and 45, which read as follows:

24. A bowling ball, comprising:

a) an inner core having a minimum specific gravity of 0.1625 per pound of ball weight, for balls ranging in weight from 8 to 16 pounds;

b) a molded encapsulating mass surrounding said inner core, wherein material adjacent to said inner core is further characterized as having a specific gravity ranging from 1.195 to 0.38 for a specific fixed weight ball within said ball weight range, to effectuate a decrease in ball moment of inertia;

c) said ball having a maximum circumference of 27.002 inches, a minimum circumference of 26.704 inches, and a minimum ball surface Durometer hardness of 72 Shore D;

d) said ball moment of inertia, of said fixed weight ball, decreases with an increase in inner core density, to effectuate an increase in the total kinetic energy output of said fixed weight ball.

32. A bowling ball, comprising:

a) an inner core having a minimum specific gravity of 0.1063 per pound of ball weight, for balls ranging in weight from 8 to 16 pounds;

b) a molded encapsulating mass surrounding said inner core, wherein material adjacent to said inner core is further characterized as having a specific gravity ranging from 1.195 to 0.38 for a specific

fixed weight ball within said ball weight range, to effectuate a decrease in ball moment of inertia;

c) the specific gravity of said inner core being greater than that of said material adjacent to said inner core;

d) said ball having a maximum circumference of 27.002 inches, a minimum circumference of 26.704 inches, and a minimum ball surface Durometer hardness of 72 Shore D;

e) said specific gravity values of said inner core, and said encapsulating mass, being selected to effectuate an increase in total kinetic energy output of said fixed weight ball.

40. The bowling ball defined in claim 32, wherein said inner core minimum specific gravity per pound of ball weight, is further characterized as being increased by the amount of 0.0187, to a value of 0.1250.

45. A bowling (sic) ball having weight mass positioned to effectuate a decrease in ball moment of inertia, comprising:

a) an inner core having a minimum specific gravity of 0.1063 per pound of a ball weight, for balls ranging in weight from 8 to 16 pounds;

b) an annular shaped weight mass located closely around said inner core;

> c) and a molded encapsulating mass surrounding said inner core and said annular shaped weight mass.

'614 patent, col. 9, II. 14-30; col. 9, 1. 51 to col. 10, 1. 2; col. 10, II. 22-25; col. 20, II. 42-50 (emphases added).

Both Brunswick and Gentiluomo filed motions for summary judgment on the issue of validity. Gentiluomo, slip op. at 1. Brunswick argued that the asserted claims would have been obvious over the prior art and thus are invalid under 35 U.S.C. § 103. Gentiluomo argued that the claims would not have been obvious. The court agreed with Brunswick and granted its motion. Id. at 13. According to the court, "(t)he prior art clearly shows that others had described balls with inner cores having a higher density than the outer cores, " id. at 9, and "in order to base a claim of patent ability on the precise specific gravities of the ball's component materials, Plaintiff must demonstrate that the claimed range of specific gravity values (0.38 to 1.195) of the encapsulating material is critical and thus produces some unexpected result which differs from that outside the range," id. at 10 (citing In re Geisler, 116 F. 3d 1465, 1470, 43 USPQ 2d 1362, 1365 (Fed. Cir. 1997) and In re Huang, 100 F. 3d 135, 136, 40 USPQ2d 1685, 1688 (Fed. Cir. 1996)); see also id. at 11 (citing In re Woodruff, 919 F. 2d 1575, 1578, 16 USPQ 2d 1934, 1936 (Fed. Cir. 1990)). Because Gentiluomo did not demonstrate criticality for the claimed range, id. at 10, 11, the court held that the asserted patent claims were invalid for obviousness and dismissed the complaint, id. at 13.

Because the court's opinion only mentioned claims 24 and 32 once in passing and did not discuss any of the

asserted claims in detail, the parties sought a clarification of the scope of the judgment. The court responded that all four asserted claims were invalid. Gentiluomo v. Brunswick Bowling & Billiards Corp., No 96-cv-544 (N.D.N.Y. Dec. 7, 2000).

Gentiluomo, pro se, appeals from the decision of the district court. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

DISCUSSION

We review a district court's grant of summary judgment de novo, reapplying the same standard used by the district court. Ethicon Endo-Surgery, Inc. v. United States Surgical Corp., 149 F.3d 1309, 1315, 47 USPQ2d 1272, 1275 (Fed. Cir. 1998). Summary judgment is appropriate "if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." Fed. R. Civ. P. 56(c). When both parties move for summary judgment, the court must evaluate each motion on its own merits, resolving all reasonable inferences against the party whose motion is under consideration. McKay v. United States, 199 F.3d 1376, 1380 (Fed. Cir. 1999).

A determination that a patent is invalid typically involves a two-step process. First, the court determines the scope and meaning of the patent claims at issue. Smiths Indus. Med. Sys., Inc. v. Vital Signs, Inc., 183 F.3d 1347, 1353, 51 USPQ2d 1415, 1418-19 (Fed. Cir. 1999). That step, claim construction, is an issue of law, Markman v. Westview Instruments, Inc., 52 F.3d 967, 970-71, 34

USPQ2d 1321, 1322 (Fed. Cir. 1995) (en banc), aff'd, 517 U.S. 370 (1996), that we review de novo, Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1454, 46 USPQ2d 1169, 1172 (Fed. Cir. 1998) (en banc) (citations omitted). When an asserted ground of invalidity is anticipation under 35 U.S.C. § 102 or obviousness under 35 U.S.C. § 102 or obviousness under 35 U.S.C. § 103, the second step involves a comparison of the asserted claims with the prior art. Whether a claim would have been obvious at the time of the invention is a question of law based on underlying findings of fact. Smiths, 183 F.3d at 1354, 51 USPQ2d at 1419-20 (citing Graham v. John Deere Co., 383 U.S. 1, 17-18 (1966)). We review a district court's underlying findings of fact for clear error, while we rule de novo on the ultimate issue of obviousness. Id. at 1355. Because an issued patent is presumed to be valid, 35 U.S.C.§ 282 (1994), the evidentiary burden to show facts supporting a conclusion of invalidity is clear and convincing evidence, WMS Gaming Inc. v. Int'l Game Techs., 184 F.3d 1339, 1355, 51 USPQ2d 1385, 1996-97 (Fed. Cir 1999).

On appeal, Gentiluomo principally argues that he should not have been required to demonstrate any criticality for the claimed range of specific gravity because it does not overlap that in the prior art. On that basis, Gentiluomo argues that this case is distinguishable from Geisler, Huang, and Woodruff, which were cited by the district court. Gentiluomo further asserts that Brunswick did not meet its burden of establishing that it is entitled to summary judgment of invalidity, but that he did establish that he was entitled to summary judgment that the patent is not invalid when the invention is viewed as a whole. More specifically, Gentiluomo contends that the

prior art fails to teach or suggest certain limitation in the claims. Gentiluomo also asserts that his invention would not have been obvious over the prior art because it reallocates the weight of the fixed weight ball from the encapsulating mass to the inner core, whereas the prior art teaches that the inner core's specific gravity or weight is varied in order to obtain balls of different weight (because the specific gravity of the encapsulating mass is fixed). Gentiluomo further asserts that certain prior art taught away from his invention by teaching bowling balls with light cores and heavy shells, and thereby increased moments of inertia.

Brunswick responds that the district court properly considered the question of the criticality of the specific gravity range, and that the claims would have been obvious under that analysis because the claimed range is not critical. Brunswick also challenges Gentiluomo's assertion that the prior art would not have rendered obvious the claimed invention as a whole, including all of the limitations Gentiluomo alleges to have been lacking from the prior art. Finally, Brunswick contends that the district court correctly decided that claim 45 would have been obvious over the prior art because Randolph's U.S. Patent 4,264,071 discloses a relatively denser inner core shaped so as to provide a top weight mass that serves the same function as the recited "annular shaped weight mass".

We agree with Brunswick that there were no genuine issues of material fact precluding the court from determining that claims 24, 32 and 40 would have been obvious to one of ordinary skill in the art at the time of the invention, and that those claims are thus invalid under § 103 as a matter of law. However, the existence of

genuine issues of material fact precludes summary judgment as to claim 45.

We first address Gentiluomo's arguments that his invention would not have been obvious because it reallocated the weight of a fixed weight ball from the encapsulating mass to the inner core, and that certain prior art taught away from that concept by teaching bowling balls with light cores and heavy shells. First, we disagree with Gentiluomo's weight-reallocation argument. That argument is premised on supposed limitations that do not appear in the relevant claims. Gentiluomo contends that the claim phrase "fixed weight ball" as well as limitation (d) of claim 24 and limitation (e) of claim 32 support the notion of weight relocation. We do not agree. The phrase "fixed weight ball" denotes that the weight of the ball does not change over time, it thus does not carry with it the significance attributed to it by Gentiluomo. Moreover, limitation (d) of claim 24 and limitation (e) of claim 32 convey merely an intended result, rather than structural limitation with respect to a given bowling ball. In any event, the claims do not require a bowling ball whose weight allocation changes over time, and the prior art bowling balls of record clearly are "fixed weight balls" as the claims contemplate. Secondly, we disagree with Gentiluomo's argument that the prior art teaches away from the invention. Gentiluomo selectively cites prior art that might be considered to teach away from his invention, but the most pertinent prior art, that of record, does not do so. The Randolph Classic and Fab I balls, unlike the art cited by Gentiluomo to support his argument, are bowling balls having relatively heavier inner cores and therefore decreased moments of inertia. Moreover, balls with light

cores and heavier shells do not necessarily teach away from the claimed balls.

Turning next to the criticality issue, we agree with Brunswick that the district court properly considered the criticality of the specific gravity range. We have affirmed determinations of invalidity or unpatentablity under § 103 in cases in which the claimed invention differs from the prior art only in that the claims recite a range of values for a variable difference from the range disclosed in the prior art. In such cases, it was held that the invention would have been prima facie obvious because an ordinarily skilled artisan would have sought the optimum values for the variable, Geisler, 116 F.3d at 1468, 43 USPQ2d at 1363, but that a prima facie case of obviousness could have been overcome by showing that the claimed range of the variable produced unexpected results. Id. See also Woodruff, 919 F.2d at 1578, 16 USPQ2d at 1936 ("The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. These cases have consistently held that in such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range.") In many of those cases, the claimed range and the prior art range overlapped, but in others they did not.

Despite Gentiluomo's contrary characterization of Huang, that case did not involve overlapping ranges." The invention in that case was a shock-absorbing grip for tennis racquets or the like. Huang, 100F.3d at 137, 40 USPQ2d at 1686. The claim required that the grip comprise a textile layer and a polyurethane layer, and that the ratio of their thicknesses (textile to polyurethane)

be "larger than approximately 0.18". Id. at 137, 40 USPQ2d at 1687. The prior art disclosed the same two layers in thickness ratios ranging from 0.111 to 0.142. Id. at 136, 40 USPQ2d at 1686-87. We affirmed the Board's obviousness rejection because "one of ordinary skill would have experimented with various thicknesses to obtain an optimum range" and Huang does not contend that he has achieved unexpected results by increasing the thickness of the polyurethane layer." Id. at 139, 40 USPQ2d at 1689. Previous decisions had held similarly. See In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1955) (affirming an obviousness rejection of a claim to a chemical process reciting use of 25-70% sulfuric acid at 40-80 degrees when the prior art disclosed the same reaction with 10% sulfuric acid at 100 degrees); In re Hill, 284 F.2d 955, 128 USPQ 197 (CCPA 1960) (affirming an obviousness rejection of a claim to a chemical process conducted at 150-250 degrees when the prior art disclosed the same reaction at 300 degrees); see also Titanium Metals Corp. of Am. v. Banner, 778 F.2d 775, 227 USPQ2d 773 (Fed. Cir. 1985) (holding invalid as obvious a claim to a titanium alloy reciting 0.8% nickel (Ni) and 0.3% molybdenum (Mo) when the prior art disclosed similar alloys having 0.75% Ni and 0.25% Mo, as well as 0.94% Ni and 31% Mo).

Gentiluomo algebraically manipulates the polyurethane to textile ratios (P/T) claimed by Huang and disclosed in the prior art, assuming for both that T=0.032 inches, to argue that the value of P corresponding to the ratio claimed by Huang overlaps the value of P corresponding to the range disclosed by the prior art. We disagree. According to our calculations, the result is that the prior art range corresponds to $0.00355 < P < 0.00454$,

and the claimed value corresponds to $P > 0.00576$. Those ranges clearly do not overlap.

In this case, Brunswick has established obviousness by clear and convincing evidence. In particular, Brunswick has established that the prior art bowling balls were constructed with an inner core and an encapsulating mass having different specific gravities, that the relationship between the specific gravities of a ball's component materials and its total kinetic energy were well known and predictable, and thus selection of a particular value for the encapsulating mass or inner core specific gravity was within the skill of the ordinary artisan, in the absence of any unexpected effects resulting from that selection. Because Gentiluomo failed to proffer any evidence of unexpected results attributable to the claimed range of specific gravity, Brunswick was entitled to summary judgment of invalidity of claims 24, 32, and 40, all of which differ from the prior art only in the range of specific gravity.

Claim 45, however, is in a different posture. The limitations of that claim are different from those of the other litigated claims, and the district court did not separately analyze that claim in light of the prior art. Claims 45 contains no recitation concerning the specific gravity of the encapsulating mass. Instead, it states that "an annular shaped weight mass (is) located closely around said inner core." '614 patent, col. 10, II. 47-48. To support its assertion that claim 45 would have been obvious, Brunswick relied on an affidavit from Thomas A. Kircher in which he opined as follows:

It is well known in the trade that bowling

> balls must be provided with appropriately located interior weighting to compensate for the loss of material that occurs when finger holes are drilled into the ball. This '614 patent provides the extra weight in the form of top weight mass 7 which is close to or part of the inner core 6, thus causing the weight center of core 6 to be offset from the ball geometric center. Randolph patents (4,131,) 277 and '071 (Exhs D, J) show constructions having cores 5 and 10, respectively, in which the core is shaped to perform the same function as the core 6 and ring 7. I am of the opinion that the use of a weight like the ring 7 of the '614 would be a completely obvious construction in view of the 277 and '017 patent.

Viewing that statement in the light most favorable to Gentiluomo for the purposes of Brunswick's motion for summary judgment, it falls short of establishing the absence of a triable issue of fact. On its face, Mr. Kircher's conclusion does not follow from the remainder of the passage. Kircher correctly characterizes the Randolph patents as disclosing a core having an irregular shape or off-center position. Notably, however, Randolph's patents do not disclose an annular mass, a separate element from the inner core and the encapsulating mass. That Randolph uses a different element - the core, whether irregularly shaped or positioned off-center - to create the same effect as Gentiluomo's "annular shaped ... mass" would not have suggested to one skilled in the

art to add such a separate "annular shaped ... mass." Indeed, a fact-finder might reach the conclusion that Randolph teaches a different solution to the same problem, steering one skilled in the art, if anywhere, away from Gentiluomo's solution recited in claim 45. We therefore reverse the court's grant of Brunswick's motion as it concerns relation to claim 45. Because there exist genuine issues as to the teachings of Randolph in relation to claim 45, we affirm the court's denial of Gentiluomo's motion for summary judgment.

In sum, because claims 24, 32, and 40 of Gentiluomo's '614 patent are invalid under 35 U.S.C. § 103, the district court correctly granted summary judgment in favor of Brunswick as to claims 24, 32, and 40. However, the court erred when it granted Brunswick's motion for summary judgment of invalidity of claims 45, though it correctly denied Gentiluomo's motion for summary judgment of validity of the same claim. Accordingly, we affirm-in-part and reverse-in-part.

ENTERED BY ORDER OF THE COURT

DATED June 5, 2002 /s/_____
Jan Horbaly, Clerk

United States Court of Appeals for the Federal Circuit

01-1364

JOSEPH A. GENTILUOMO

Plaintiff-Appellant,

v.

BRUNSWICK BOWLING AND BILLIARDS CORPORATION
(individually and doing business as Brunswick Technology Ventures and as Quantum),

and

COLUMBIA 300, INC. (individually and doing business as Track, Inc.),

and

PIN BREAKER, INC.,

Defendants-Appellees,

and

ROTO-GRIP, INC.,

Defendant.

JUDGMENT

ON APPEAL from the UNITED STATES DISTRICT COURT NORTHERN DISTRICT OF NEW YORK

in Case NO(S). 96-CV-544

This CAUSE having been heard and considered, it is

ORDERED and ADJUDGED: AFFIRMED

ENTERED BY ORDER OF THE COURT

DATED June 5, 2002 /s/_____
Jan Horbaly, Clerk

Issued as a Mandate: July 8, 2002

Corrected: 7/12/02

United States Court of Appeals for the Federal Circuit

01-1364

JOSEPH A. GENTILUOMO

Plaintiff-Appellant,

v.

BRUNSWICK BOWLING AND BILLIARDS CORPORATION
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Defendant.

JUDGMENT

ON APPEAL from the UNITED STATES DISTRICT COURT NORTHERN DISTRICT OF NEW YORK

in Case NO(S). 96-CV-544

This CAUSE having been heard and considered, it is

ORDERED and ADJUDGED: Affirmed-in-Part AND Reversed-in-Part

ENTERED BY ORDER OF THE COURT

DATED June 5, 2002 /s/ Jan Horbaly, Clerk

Issued as a Mandate: July 8, 2002

APPEAL NO. 01-1364

In the
UNITED STATES COURT OF APPEALS
for the
FEDERAL CIRCUIT

JOSEPH A GENTILOUMO
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and

PIN BREAKERS, INC.,
Defendants-Appellees,

and

ROTO-GRIP, INC.,
Defendant.

Appeal from the United States District Court for the Northern District of New York in 96-CV-544, Judge Lawrence E. Kahn.

REPLY BRIEF FOR PLAINTIFF-APPELLANT

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Br. Page 41: Brunswick's statement that "Gentiluomo's so-called inventive concept of removing weight from the outer portion of a ball and relocating said weight to the inner core, is not supported by any of the claims at issue," is erroneous.

Based on claim limitations 24(d) and 32(e), claims 24 and 32 implicitly disclose the above cited inventive concept. For sample, 24(d) recites that ball moment of inertia of said fixed weight ball, decreases with an increase in total kinetic energy output of said fixed weight ball. Therefore, the only way the moment of inertia of a fixed weight ball will decrease with an increase in inner core density or weight, is to remove weight from the outer portion of said ball and relocate said weight to within the inner core. All claim limitations must be considered when considering obviousness under 35 U.S.C. § 103. In re Boe & Duke, 184 U.S.P.Q. 38. Now, limitation 32 (e) recites that specific gravity values of said inner core, and said encapsulating mass being selected to effectuate an increase in total kinetic energy output of

said fixed weight ball. Therefore, the only way to increase the total kinetic energy output of a fixed weight ball is to remove weight from the outer portion of said ball and relocate said weight to within the inner core, to decrease the ball's moment of inertia and thus effectuate an increase in total kinetic energy output, as disclosed in the '614 patent specification. For further argument, refer to page 23 of Gentiluomo's initial brief.

Br. Page 42: Brunswick stated that Gentiluomo's assertion that the cited prior art teaches variable weight balls is wrong. Gentiluomo's emphasis on the '071 and '277 patents teaching variable weight balls is misplaced in view of the fact that the District Court relied on the Randolph and Fab I balls for its obvious analysis, not on prior art patents. Both the Randolph and Fab I balls are fixed weight balls. In fact, a bowling ball can be nothing but a fixed weight object. Its weight does not change as it rolls down the lane.

Brunswick's above cited remarks are erroneous and merit less. The District Court's decision was not based solely on Randolph and Fab I. It should be noted that the District Court stated at page 9 of its Memorandum-Decision and Order, that "Indeed, the prior art was limited to manipulation of the inner core, and the weight of the ball was dictated by the size and density of that inner core." As for the terminology used by Gentiluomo in distinguishing his claimed invention from the prior art, it is apparent that the terms "Fixed Weight Ball" and "Variable Weight Ball," is associated with the constructional concept used for arriving at balls with particular performance characteristics, and not based on whether or not a ball's weight changes as it rolls down a lane.

Br. Pages 45-48: With regard to Brunswick's "secondary consideration" arguments, Gentiluomo did not present any argument in his initial brief, and therefore, will not respond to Brunswick's arguments.

Br. Pages 48-49: Brunswick stated that the District Court implicitly decided Gentiluomo's cross-motion for summary judgment.

With regard to this argument, Gentiluomo will rely on arguments presented in his initial brief at pages 42-43.

III. **Conclusion**

In consideration of all presented information regarding the issue of "criticality," it is apparent that only when the difference between the prior art and the claimed invention lies in some range or other variable within the claimed range, must criticality be shown by disclosing unexpected results. (In re Woodruff). Therefore, when considering Gentiluomo's claims as a whole, it is apparent that the claimed specific gravity range of 1.195 to 0.38 is not the only structural difference over cited prior art. For example, claim limitations 24(d) and 32(e), as discussed at Br. Page 41, supra, convey structural limitations not found in cited prior art. Therefore, based on In re Woodruff, Gentiluomo need not show "criticality" and disclose unexpected results in his patent.

Based on undisputable factual evidence presented herein, and in his initial brief, Gentiluomo believes that a correct application of the law to a correct finding of fact, will render a decision in Gentiluomo's favor.

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT
01-1364

JOSEPH A GENTILOUMO

Plaintiff-Appellant,

v.

BRUNSWICK BOWLING AND BILLIARDS CORPORATION
(individually and doing business as Brunswick Technology Ventures and as Quantum),

and

COLUMBIA 300, INC., (individually and doing business as Track, Inc.),

and

PIN BREAKERS, INC.,

and

ROTO-GRIP, INC.,

Defendants-Appellees.

Appeal from the United States District Court for the Northern District of New York in 96-CV-544, Judge

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Moreover, in *Luvisi* there were other features in the claims not obvious from the prior art, as well as affidavit evidence which supported a finding of non-obviousness. 342 F.2d at 110. In contrast, here Gentiluomo *only* relies on a different range to differentiate his claims. This cannot save the '614 patent from being obvious.

D. Gentiluomo's Assertion That The Claims Are Valid Because The Prior Art Does Not Render Obvious The Invention As A Whole Is Incorrect

Gentiluomo also asserts that his invention as a whole is not anticipated by the Randolph and Fab I prior art balls. (Gentiluomo Br. At 4-9). Gentiluomo contends that the essence of his invention is a fixed weight ball versus the prior art which are all variable weight balls.

The fixed weight of the Gentiluomo invention allegedly allows weight to be removed from the encapsulating material to the inner core. (Gentiluomo Br. At 5). Gentiluomo concludes that the Randolph and Fab I balls cannot render the claims at issue obvious because they do not suggest this inventive concept. (Gentiluomo Br. at 9).

Gentiluomo ignores a basic tenet of patent law. The claims, not the '614 patent specification, define the invention and thus the claims are evaluated to determine invalidity. Gentiluomo's so-called inventive concept of removing weight from the encapsulating material and relocating this weight to the inner core is not supported by any of the claims at issue. None of the claims require removal of weight from the encapsulating material and a relocation of it to the inner core.

Dated: February 7, 2002 Respectfully Submitted,

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APPEAL NO. 01-1364

In the
UNITED STATES COURT OF APPEALS
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Appeal from the United States District Court for the Northern District of New York in 96-CV-544, Judge Lawrence E. Kahn.

BRIEF FOR PLAINTIFF-APPELLANT

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VII. The Argument

The purpose of this appeal is to provide the Court of Appeals with factual evidence of such creditable quality as to convince the Court of Appeals that the District Court's Memorandum-Decision and Orders and the Final Judgment, were erroneous.

A. Consideration of the Teachings of the '614 Patent and the Cited Prior Art Taken as a Whole.

In determining whether a patent is invalid for obviousness, fact finder must determine whether patent challenger has established by clear and convincing evidence that claimed invention as a whole would have been obvious from the perspective of a person of ordinary skill in the art at time invention was made. Spalding & Evenflo Companies, Inc. v. Acushnet Co., 13 U.S.P.Q. 2d 1081. A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would teach away from the claimed invention. W.L. Gore & Associates, Inc. V. Garlock, Inc., 220 U.S.P.Q. 303

(1) Simplified Representation of Cited Prior Art and Gent.'s Invention

Variable Weight Ball

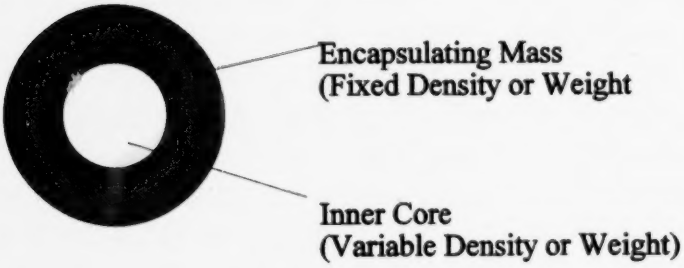


Fig. 1 (Prior Art)

Fixed Weight Ball

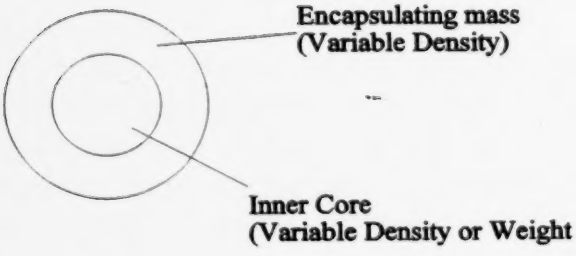


Fig. 2 (Invention)

Fig. 1 represents the cited prior art patents of Rand. '071 and '277, and the Rand. Classic and Fab I bowling balls.

Fig. 2 represents Gent.'s claimed invention. (A112-A118).

Since Gent.'s '614 patent claims encompass an inner core of any configuration, and an encapsulating mass of any number of elements surrounding the inner core, a two piece ball with a spherical inner core will be used to simplify comparison between the '614 patent's independent claims 24, 32 and 45, and the cited prior art. Also, the inner core configurations of the cited prior art and the '614 patent balls, will be represented as spherical in shape. It should be noted that the shape of the inner core has no significance toward the rendering of a true comparison between the concepts behind the cited prior art and Gent.'s claimed invention. Since the '614 patent teaches that the material specific gravity adjacent to the inner core can range from 1.195 to 0.38 (A118), the encapsulating mass will be classified as "variable density." Since the '614 patent teaches that the weight design-wise removed from the encapsulating mass of prior art balls is design-wise relocated within the inner core, such that the inner core has a minimum specific gravity of 0.1063 or 0.1625 per pound of ball weight (A118), the inner core is classified as a "variable density or weight" inner core. Since the '614 patent teaches that the weight design-wise removed from the encapsulating mass is design-wise relocated within the inner core, ball weight remains fixed, and therefore classified as a fixed weight ball. (A114)

Since the prior art teaches that inner core density or weight is varied in order to obtain different weight balls (A252-A253; A268-A269; A282, A283, A284), the encapsulating mass must be deemed "fixed density or weight," and the ball as "variable weight" (A254-A255), as shown in Fig. 1. Note the structural difference between the balls depicted in figures 1 and 2.

(2) Non-obviousness of Gent.'s Claimed Invention Over Cited Prior Art When Taken as a Whole

The prior art taken as a whole, clearly and convincingly does not teach nor suggest to a person of ordinary skill in the art, Gent.'s claimed invention. Gent. discovered that a problem existed in prior art bowling balls, in that a lighter weight ball was not available that would provide output power comparable to the power obtained from a heavier weight ball. (A115; A248; A267-A268). To assist in solving the problem, Gent. derived the equations of motion applicable to a bowling ball as it travels down a bowling lane. (A44-A52; A248-A249; A263-A265) The equations revealed that by design-wise removing weight from the outer portion of a prior art fixed-weight ball, and design-wise relocating the removed weight to within the inner portion of the ball, the total kinetic output of the ball would be increased. Gent. solved the problem by lowering the moment of inertia of a prior art light-weight ball, in order to provide output power comparable to a heavier weight prior art ball. (A114; A267-A270; A319). Gent. was the first to discover that the total kinetic energy output of a fixed weight ball can be increased by reducing the ball's moment of inertia (A249; A321).

The evidence is clear that prior to Gent.'s invention, no one in the bowling industry ever attempted to structure a bowling ball in a manner disclosed in the '614 patent. The prior art teaches balls having an encapsulating mass which functions as a fixed density reservoir wherein its density remains fixed, and an inner core which functions as a variable density or weight reservoir whose density or weight can be varied to provide balls of various desired weight. (See Fig. 1 supra). In Gent.'s invention the encapsulating mass functions as a variable density reservoir whose density varies when weight is design-wise transferred to the inner core of a fixed weight ball, whereas the inner core acts as a variable weight or density reservoir for accommodating the weight which was

transferred from the encapsulating mass, in order to effectuate an increase in total kinetic energy output of said fixed weight ball. (See Fig. 2, supra). In Gent.'s patented invention, the magnitude of the density or weight of the inner core is dependent on the magnitude of the encapsulating mass specific gravity when varied between the claimed range of 1.195 to 0.38, for a specific fixed weight ball. In the cited prior art balls, the magnitude of the density or weight of the inner core is dependent solely on the weight of ball desired. (A268-A269; A249-A250, A255).

Upon viewing the prior art in its entirety, it is apparent that none of it, no matter how combined and manipulated, will teach or suggest to one of ordinary skill in the art the concept realized by Gent. Nothing in the prior art remotely suggests that the total kinetic energy output of a fixed weight bowling ball can be increased by reducing the ball's moment of inertia. For example, the prior art patents of MacDonald (A63-A73 & A74-A84), both disclose in Col. 5, lines 41-52 and Col. 6 lines 3-5, that balls having an inner hollow member and a resin cover in which the density can be made greater by addition of a filler, to improve striking force by increasing moment of inertia. (A294; A263-A265). Even about 1 ½ years after Gent. filed his patent application, Miller et al filed his patent application (now Pat. No. 4,522,397), in which he stated (A95), that "A ball with a light weight core and a heavy shell, would have a relatively large amount of angular momentum or rotational inertia. This type of ball would impart significantly more energy to the pins because of its higher rotational inertia." Therefore, this would indicate to a person of ordinary skill in the art not to explore cover specific gravities less than the 1.213 or great. Since the '614 patent teaches increasing the density or weight of the inner core to provide an increase in kinetic energy, it is apparent that the '614 patent teaches away from the prior art. Patented subject matter that goes against teachings of prior art indicate non-obviousness Milo Electronics Corp. v. United Telecommunications, Inc., 189

U.S.P.Q. 160. The totality of the prior art must be considered, and proceeding contrary to accepted wisdom in the art is evidence of non-obviousness. In re Hedges, 783 F. 2d 1038.

Thus, when considering what constitutes Gent.'s "invention as a whole," within the context of 35 U.S.C. 103, it is required to first consider that which persisted within the prior art, and then consider Gent.'s contribution. None of the cited prior art, no matter how combined and manipulated, address the solution to the problem identified by Gent. The source of the problem is part of the "subject matter as a whole," which must be considered in determining obviousness of an invention

With reference to the above illustration, obviousness was established because an end point value of the claimed invention touched an end point value of the prior art. Therefore, this case reveals that when a claimed range of an element lies within or overlaps a range disclosed in the prior art, it must be shown that the claimed range for that element is critical, generally by showing that the claimed range achieves unexpected results relative to the prior range.

(2) In re Huang (A119-A124)

To properly analyze In re Huang, the following disclosure must be considered.

Prior Art - Huang admits that the prior art employed the same two layers in polyurethane/textile ratios ranging from a low of 0.111 to a high of 0.142.

If P = Polyurethane Thickness, and T= Assumed Textile Thickness of 0.032", then P/T = 0.111 min. and P/T = 0.142 Max.

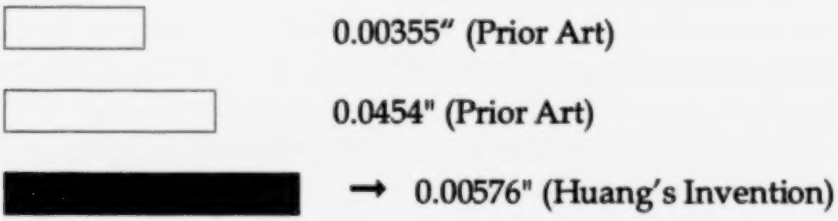
Therefore, $P = 0.111T = 0.111 \times 0.032 = \underline{0.00355"}$ Min.

$P = 0.142T = 0.142 \times 0.032 = \underline{0.00454"}$ Max.

Huang's Invention - The thickness ratio of the transverse central region of the polyurethane layer/textile layer being equal to or larger than approximately 0.18.

P/T = > 0.18 P= >0.18T = > 0.18 x 0.032 = > 0.00576"

Therefore, for an assumed textile thickness of 0.032", Huang's invention would have a polyurethane thickness of 0.00576" or greater, and the prior art polyurethane thickness would range from a low of 0.00355" to a high of 0.00454".



THICKNESS OF POLYURETHANE LAYER

As above illustrated, the thickness dimension of Huang's invention's polyurethane thickness layer overlaps the polyurethane thickness layers taught by the prior art.

Therefore, the court concluded that because Huang did not contend that he achieved unexpected results by increasing the polyurethane thickness layer over the taught by prior art, his invention is obvious.

3. In re Woodruff (A99-A102

Woodruff teaches that when the only difference between the prior art and the claimed invention, lies within the range of values of one of the common elements of the prior art and the claimed invention, it must be demonstrated that claimed range is critical.



Prior Art (McGill)

0% 5%

It should be noted that Bruns. Did not indicate, by reference to supporting evidence of record, its unsupported allegation. For example, where does the '071 patent teach an inner core having a minimum specific gravity of 0.1063 or 0.1625 per pound of ball weight for balls ranging in weight from 8 to 16 pounds. Also, where does the '071 patent teach a specific gravity range of 1.195 to 0.38. Since the '071 patent is silent as to specific gravity values for the cover material, and since the cited Fab I ball teaches a minimum specific gravity of 1.213, it is apparent that the '071 patent does not teach or suggest Plaintiff's claimed range of 1.195 to 0.38.

Since Bruns. did not factually establish wherein the '071 patent disclosure exists such as to teach Gent.'s claim lim.'s 24(a), 32(a), 45(a), 24(b) and 32(b), Bruns.' remarks must be deemed unsupported allegations, which cannot show an absence of genuine issue of material fact. Party moving for summary judgment has burden of providing proper documentary evidence to show absence of genuine issue of material fact. (Wittmer v. Peters, supra.)

(c) Teachings of Rand.'s U.S. pat. No. 4,131,277

Bruns. stated that Rand. '277 contemplated the use of a higher density core to obtain a lower moment of inertia well before Gent. ever filed his patent application. (A151; A222). Bruns.' expert witness, Thomas P. Kicher, represented that he disagreed with Gent.'s statement that "column 6, lines 5-12 of Rand. '277 teaches a ball having a core of lighter material than that which surrounds it, to reduce the moment of inertia of the ball." Mr. Kicher indicated that the above cited disclosure represents a description applicable to Rand. '369, and not the teachings of Rand. '277 (A212-A213)

Since the above remarks of both Bruns. and Mr. Kicher are obviously erroneous, the '369 and the '277 patents must be thoroughly and properly analyzed to factually determine what they truly disclose. Therefore, the following analysis is presented.

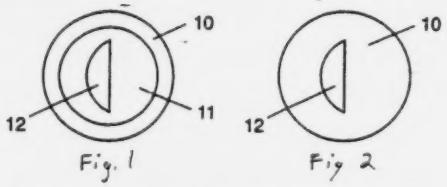


Fig. 1 Fig. 2

12 - Heavy Segment
Rand. '369

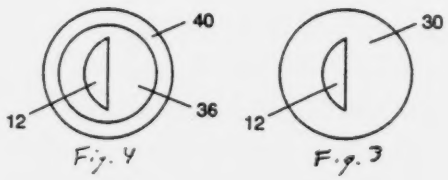


Fig. 4 Fig. 3

12 - Heavy or Light Segment
Rand. '277

Rand. '369 discloses in column 2 that weighted portion 12 is made of hard rubber or synthetic resin material containing a loading material such as finely ground barytes.

Rand. '277 discloses in column 2 that segment 12 can be made of plastic material of either especially heavy or especially light material.

It should be noted that the Fig.'s I and 2 weighted core embodiments depicted and described in Rand. '369 are structurally identical respectively to the Fig.'s 4 and 3 weighted core embodiments depicted and described in Rand. '277. This indicates that the weighted core embodiments of both the '369 and '277 patents must yield balls with identical characteristics. Therefore, the statement in Col. 5, lines 65-68 and Col. 6, line 1 of the '277 patent that "In my prior U.S. Pat. No. 3,865,369 I showed how the performance of a ball could be altered by making a weighted core or insert in such a shape that a major part of its mass is close to the surface so as to enhance the moment of inertia of the ball, applies to the weighted core embodiment of both the '369 and the '277 patents. Since the '369 patent does not teach of a light-weighted core, it is apparent that the statement in Col. 6, lines 5-8 of the '277 patent that "The opposite effect can be attained by making such a core of lighter material than that which surrounds it to reduce the moment of inertia of the ball," applies solely to the lightweight core embodiment depicted and described solely in the '277 patent. (A293-A294; A273). Therefore, a person skilled in the art will ascertain that the '277 patent teaches that a reduction in moment of inertia is attained by making the core 12 of lighter weight material than that which surrounds it. Note that this is counter to what Gent.'s '614 patent discloses.

Since the '277 patent does not teach nor suggest that the total kinetic energy output of a fixed weight ball can be increased by reducing the ball's moment of inertia, through an increase in inner core density or weight, it is apparent that the '277 patent cannot show an absence of genuine issue of material fact. Party moving for summary judgment has burden of providing proper evidence showing absence of genuine issue of material fact. Wittmer v. Peters, supra. Based on presented facts, it is apparent that the District Court erred in that it failed to ascertain that Rand. '277 does not provide the teaching to establish an absence of genuine issue of

material fact regarding the above presented issue.

(2) Differences Between Cited Prior Art and Claims at Issue

Bruns. stated that the only difference between the prior art and the '614 patent is the recitation of an inner core specific gravity of 0.1625 or 0.1063 per pound of ball weight, and an encapsulating mass specific gravity of 1.195 to 0.38 for a specific fixed weight ball weighing between 8 to 16 pounds (A152). Also, Bruns. stated that the only difference between claim elements 24(b) and 32(b) and the Fab I and Rand. Classic balls is the specific gravity range of from 0.38 to 1.195 (A193).

The District Court stated that the only difference between the prior art and claims 24 and 32 in the Patent are the precise specific gravity ranges set forth in those claims. As explained above, Plaintiff failed to demonstrate how the particular range is critical to the invention such that it produces unexpected results relative to the prior art (A16).

Since Bruns.' and District Court's "criticality issue" is deemed erroneous and void due to their misinterpretation of In re Geisler, In re Huang and In re Woodruff, they are left with the task of providing undisputed factual evidence that Plaintiff's claimed invention as a whole would have been obvious. When analyzing patent claim for obviousness, claim should be considered as a whole, but differences between claim and prior art need to be identified to place obvious analysis into proper perspective. Ryko Mfg. Co. v. Nu-Star, Inc., 950 F. 2d 714, 717.

Since Bruns. and the District Court stated that there is a difference between the '614 patent's claimed specific gravity ranges, and based on the fact that said ranges cannot be deemed critical, they have indirectly admitted that the cited prior art does not teach nor suggest Plaintiff's claimed invention. Therefore, it is apparent that the cited prior art does not show an absence of genuine issue of material fact

regarding Plaintiff's specific gravity claim limitations. Party moving for summary judgment has burden of providing proper documentary evidence showing an absence of genuine issue of material fact. Wittmer v. Peter. supra.

A review of the record will reveal that there exists greater patentable differences between the '614 patent claims and the teachings of the prior art, over and beyond the differences acknowledged by both Bruns. and the Court. Claim lim.'s 24(b), 24(d), 32(b) and 32(e) recite functional limitations of claimed structure which distinguish over cited prior art, and therefore should not be ignored (A256; A272; A295). Ascription of claim that ascribes function to any of the things it specifies, is a limitation of the claim, and ignoring express functional limitation of claim would be to create a new claim, and not interpret the claim granted. Butler et al v. Helms, 193 U.S.P.Q. 81, 82. In order for the claimed invention to be deemed obvious, the prior art must teach all of the '614 patent claim limitations. In re Royka, 490 F. 2d 981.

DATED: Nov. 23, 2001

/s/_____
Joseph A. Gentiluomo, Pro Se

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF NEW YORK

JOSEPH A. GENTILUOMO,
Plaintiff,
v.

FINAL JUDGMENT

BRUNSWICK BOWLING & BILLIARDS CORPORATION, Individually d.b.a. Brunswick Technology Ventures d.b.a. Quantum; COLUMBIA 300, INC., Individually d.b.a.Track, Inc.; PIN BREAKERS, INC.; and ROTO-GRIP, INC.,

96-cv-544 (LEK/RWS)

Defendants.

BRUNSWICK BOWLING & BILLIARDS CORPORATION, d.b.a. Quantum, d.b.a Brunswick Technology Venures,

Counter-claimant,

JOSEPH A. GENTILUOMO,

Counter-defendant,

COLUMBIA 300, INC., d.b.a. Track Inc.,

Counter-claimant,

JOSEPH A. GENTILUOMO,

Counter-defendant,

PIN BREAKERS, INC.,

Counter-claimant

JOSEPH A. GENTILUOMO

Counter-defendant

FINAL JUDGMENT

In accordance with this Court's November 1, 1999 and December 7, 2000 Memorandum Decisions and Orders, Plaintiff's claims alleged in the Complaint against all Defendants are dismissed, the Defendant's Counterclaims against Plaintiff are granted to the extent that the Patent Claims in Suit are declared to be invalid, and the Defendant's counterclaims are otherwise

dismissed without prejudice. The parties shall bear their own costs and attorneys' fees.

Accordingly, it is hereby

ORDERED that the Clerk of the Court serve a copy of this Order to all parties by regular mail.

IT IS SO ORDERED.

/s/_____
LAWRENCE E. KAHN
United States District Judge

Dated: April 17, 2001
Albany, New York

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF NEW YORK

JOSEPH A. GENTILUOMO,

Plaintiff,

96-CV-544
(LEK/RWS)

v.

BRUNSWICK BOWLING & BILLIARDS CORPORATION, Individually d.b.a. Brunswick Technology Ventures d.b.a. Quantum; COLUMBIA 300, INC., Individually d.b.a. Track, Inc.; PIN BREAKERS, INC; and ROTO-GRIP, INC.,

Defendants.

BRUNSWICK BOWLING & BILLIARDS CORPORATION, d.b.a. Quantum, d.b.a. Brunswick Technology Ventures,

Counter-claimant,

JOSEPH A. GENTILUOMO,

Counter-defendant,

COLUMBIA 300, INC., d.b.a. Track Inc.,

Counter-claimant,

JOSEPH A. GENTILUOMO,

Counter-defendant,

PIN BREAKERS, INC.,

Counter-claimant,

JOSEPH A. GENTILUOMO,

Counter-defendant.

MEMORANDUM - DECISION AND ORDER

Presently before the Court is defendant Brunswick Bowling & Billiards Corporation's ("Defendant") request for clarification of the Court's November 1, 1999 Order granting its motion for summary judgment and dismissing Plaintiff's case in its entirety.

In relevant part, Rule 60 (a) of the Federal Rules of Civil Procedure allows courts to correct errors in orders

resulting from oversight or omission. See Fed. R. Civ. P. 60(a). Rule 60 (a) allows for such corrections to the extent that they are used to "implement the result intended by the court at the time the order was entered." Rezzonico v. H & R Block, Inc., 182 F.3d 144, 150-51 (2d Cir. 1999).

Defendant seeks a modification of the Order to make it clear that the Court invalidated all of the claims of Plaintiff's patent that were the subject of the summary judgment motion. Defendants contends that such a modification is necessary because there is a dispute between the parties as to the extent of the Court's Order resulting from the Court's failure to expressly discuss two of the four patent claims argued to be obvious in Defendant's summary judgment motion.

It is true that the Order only expressly discusses two of the four claims addressed in Defendant's motion. However, that discussion was in the context of only one of the four factors to be considered in making an obviousness determination and was clearly not intended to limit the application of the entire analysis to those two claims alone. The Order clearly granted the Defendant's motion and dismissed Plaintiff's case against them in its entirety. Therefore, no correction is necessary and Defendant's motion is denied.

Accordingly, it is hereby

ORDERED that defendant Brunswick Bolwing & Billiards Corporation's request for clarification is DENIED; and it is

FURTHER ORDERED that the Clerk of the Court serve a copy of this order on all parties by regular mail.

IT IS SO ORDERED.

/s/_____
LAWRENCE E. KAHN
United States District Judge

Dated: 12/ 7, 2000
Albany, New York

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF NEW YORK

JOSEPH A. GENTILUOMO,

Plaintiff,

96-CV-544
(LEK/RWS)

v.

BRUNSWICK BOWLING & BILLIARDS CORPORATION, Individually d.b.a. Brunswick Technology Ventures d.b.a. Quantum; COLUMBIA 300, INC., Individually d.b.a. Track, Inc.; PIN BREAKERS, INC; and ROTO-GRIP, INC.,

Defendants.

BRUNSWICK BOWLING & BILLIARDS CORPORATION, d.b.a. Quantum, d.b.a. Brunswick Technology Ventures,

Counter-claimant,

JOSEPH A. GENTILUOMO,

Counter-defendant,

COLUMBIA 300, INC., d.b.a. Track Inc.,

Counter-claimant,

JOSEPH A. GENTILUOMO,

Counter-defendant,

PIN BREAKERS, INC.,

Counter-claimant,

JOSEPH A. GENTILUOMO,

Counter-defendant.

MEMORANDUM - DECISION AND ORDER

Plaintiff commenced this action alleging patent infringement. Presently before the Court is (i) defendant Brunswick's motion for summary judgment on the validity of Plaintiff's patent, (ii) Plaintiff's motion for summary judgment as to Brunswick's affirmative defenses, (iii) defendant Brunswick's motion to bifurcate the trial, (iv) Plaintiff's cross-motion to dismiss with prejudice, (v) Plaintiff's cross-motion to compel Defendants to comply with discovery demands, (vi)

defendant Brunswick's motion to strike the affidavit of an expert patent examiner, (vii) defendants' motions to strike Plaintiff's cross-motion to compel, and (viii) defendant Columbia's motion for sanctions.

I. BACKGROUND

Plaintiff designed a bowling ball and secured a patent that was reissued on May 24, 1994 (the "Patent"). Most bowling balls are constructed to have an outer cover and inner core, which may be of uniform composition or of material of varying density. The specifications of the Patent disclose a bowling ball having three parts: (i) a high density solid inner core; (ii) a molded encapsulating mass of material surrounding the inner core; and (iii) an annular top weight mass located within the molded encapsulating mass and positioned close to the high density inner core. When a bowler releases a bowling ball, it first slides with little spin through the oiled portion of a bowling lane, enters the unoiled portion, grips the unlubricated portion, and goes into a pure roll. Plaintiff theorized that by removing the weight from the exterior and concentrating it toward the center of the ball, the ball would rotate faster upon hitting the unlubricated portion. This would result in Plaintiff's heavy-center ball hitting the pins with more energy due to decreased moment of inertia. Moment of inertia represents the likelihood that a spherical body keeps turning after being started; a body with a high moment of inertia will roll further than a body with a low moment of inertia. The Patent therefore describes a ball with more hooking action and more ball drive and mixing action when hitting the pins, hopefully increasing the chances of a

strike.

In 1996, Plaintiff commenced this action against defendants alleging infringement of the Patent. Defendant Brunswick contends that the Patent is invalid because the prior art renders Plaintiff's invention obvious.

II. ANALYSIS

A. Motions for Summary Judgment

1. Standard for Summary Judgment

Both Plaintiff and defendant Brunswick have moved for summary judgment as to the validity of the patent.

Summary judgment is appropriate if "the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." Fed. R. Civ. P. 56(c). A material fact is genuinely disputed only if, based on that fact, a reasonable jury could find in favor of the non-moving party. Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986). On a motion for summary judgment, all evidence must be viewed and all inferences must be drawn in the light most favorable to the nonmoving party. City of Yonkers v. Otis Elevator Co., 884 F. 2d 42, 45 (2d Cir. 1988).

The party seeking summary judgment bears the initial burden of "informing the district court of the basis for its motion" and identifying the matter "it believes demonstrate(s) the absence of a genuine issue of material

fact." Celotex Corp. v. Catrett, 477 U.S. 317, 323 (1986). Upon the movant's satisfying that burden, the onus then shifts to the non-moving party to "set forth specific facts showing that there is a genuine issue for trial." Anderson, 477 U.S. at 250. The non-moving party "must do more than simply show that there is some metaphysical doubt as to the material facts," Matsushita Elec. Indus. Co. v. Zenith Radio Corp., 475 U.S. 574, 586 (1986), "but must set forth specific facts showing that there is a genuine issue of fact for trial." First Nat'l Bank of Az. v. Cities Serv. Co., 391 U.S. 253, 288 (1968). Summary judgment is usually unwarranted when the defendant's state of mind is at issue. Clements v. Nassau County, 835 F.2d 1000, 1005 (2d Cir. 1987). In order to raise a fact issue regarding state of mind, however, there must be solid circumstantial evidence to prove plaintiff's case. Id. "Mere conclusory allegations, speculation or conjecture will not avail a party resisting summary judgment." Cifarelli v. Village of Babylon, 93 F. 3d 47, 51 (2d Cir. 1996).

2. **Nonobviousness**

Defendant Brunswick asserts that Plaintiff's patent is invalid on the grounds of obviousness. By statute, the party challenging the validity of a patent bears the burden of overcoming the statutory presumption of validity:

> A patent shall be presumed valid. Each claim of a patent (whether in independent, dependent, or multiple dependent form) shall be presumed valid independently of

> the validity of other claims; dependent or multiple dependent claims shall be presumed valid even though dependent upon an invalid claim. The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity.

35 U.S.C. § 282. See also Envirotech Corp. v. Al George, Inc., 730 F. 2d 752, 762 (Fed. Cir. 1984). Validity encompasses three "separate tests of patentability": novelty, utility and nonobviousness. United States v. Adams, 383 U.S. 39, 48 (1966). Thus, included within the presumption of validity is a presumption of novelty, a presumption of utility, and a presumption of nonobviousness, each of which must be presumed to have been met. See Medtronic, Inc. v. Cardiac Pacemakers, Inc. 721 F. 2d 1563, 1567 (Fed. Cir. 1983).

A patent is invalid on obviousness grounds if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. See 35 U.S.C. § 103. The test for obviousness entails four factual determinations: "(1) the scope and content of the prior art; (2) the differences between the claims and the prior art; (3) the level of ordinary skill in the pertinent art; and (4) secondary consideration, if any, of nonobviousness." Uniroyal, Inc. v Rudkin Wiley Corp., 837 F. 2d 1044, 1050 (Fed. Cir. 1988); see also Graham v. John Deere Co., 383 U.S. 1, 17 (1966).

a. Level of Ordinary Skill in the Pertinent Art

Under Graham, the court must first consider the scope and content of prior art. The relevant art is defined as that "reasonably pertinent to the particular problem with which the inventor was involved." Stratoflex, Inc. v. Aeroquip Corp., 713 F. 2d 1530, 1435 (Fed. Cir. 1983) (citations omitted). In this case, the inventor was concerned with designing a bowling ball with superior control and accuracy. Thus the scope of the relevant art is that reasonably pertinent to the mechanics of bowling ball design. Plaintiff holds a Bachelor's Science degree from Rennselaer Polytechnic Institute of Troy, New York, and pursued advanced study in mechanical engineering, and defendant Brunswick does not contest the fact that Plaintiff's knowledge surpassed the level of skill in the art at the time of his invention.

b. Scope and Content of Prior Art

The combined teachings of prior art as a whole must be considered in determining whether an invention is actually obvious and therefore unfit for patent. E.W.P. Corp v. Reliance Universal Inc., 755 F. 2d 898, 906 (Fed. Cir.), cert. denied, 474 U.S. 843 (1985). In determining whether obviousness is established by combining the teachings of the prior art, "the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art." Cable Elec. Prods., Inc. v. Genmark, Inc., 770 F.2d 1015, 1025 (Fed. Cir. 1985) (quoting In re Keller, 642 F.2d 413, 425 (C.C.P.A. 1981)). Furthermore, to invalidate claimed subject matter for obviousness, the combined teachings of the prior art

references must suggest, expressly or by implication, the improvements embodied by the invention. In re Sernaker, 702 F.2d 989 (Fed. Cir. 1983); see also In re GPAC, Inc., 57 F.3d 1573, 1577 (Fed. Cir. 1995).

Any bowling ball that was in use or for which a patent existed prior to Plaintiff's filing date on October 31, 1990, falls within the domain of prior art. See 35 U.S.C. §§ 102 (b), 102(d). Defendant Brunswick points to four bowling balls that were either in use or for which patents existed prior to Plaintiff's filing date. The prior art clearly shows that others had described balls with inner cores having a higher density than the outer cores. Plaintiff contends that these other balls failed to teach or suggest their own structural limitations, whereby a minimum specific gravity of the inner core is determined on the basis of per pound ball weight. Since no mention of varying specific gravity values of the encapsulating mass is made in the prior art, Plaintiff maintains that the prior art fails to articulate the motivation behind the Patent, which enable the manipulation of the ball's moment of inertia without changing the final weight of the ball. Indeed, the prior art was limited to manipulation of the inner core, and the weight of the ball was dictated by the size and density of that inner core.

The fact that a patent is an improvement over other prior art references will not necessarily save it from a finding of invalidity. It matters not that Plaintiff's bowling ball in theory operate better than the prior art bowling balls, if the improvement would have been obvious to those of ordinary skill in the art at the time of the invention. What matters is that the gap between the prior art and what is being claimed must be sufficiently great as to render the latter nonobvious. It is clear that

obviousness does not require predictability, but a reasonable expectation of success is necessary. In re Clinton, 527 F.2d 1226, 1228 (C.C.P.A. 1976).

Plaintiff is ultimately attempting to patent a range of specific gravities that correlate to an acceptable weight for bowlers. Defendant Brunswick correctly argues that in order to base a claim of patentability on the precise specific gravities of the ball's component materials, Plaintiff must demonstrate that the claimed range of specific gravity values (0.38 to 1.195) of the encapsulating material is critical and thus produces some unexpected result which differs from that outside the range. See In re Geisler, 116 F.3d 1465, 1470 (Fed. Cir. 1997); In re Huang, 100 F.3d 135, 136 (Fed. Cir. 1996). Plaintiff is unable to demonstrate the criticality for the claimed range: Plaintiff admitted that the only reason he selected the range that he did was that those numbers were not found in the prior art. See Deposition of Joseph A. Gentiluomo taken March 10, 1998, 162, 163-65, a copy of which is attached as Exhibit E to the Memorandum of Law in Support of Defendant Brunswick Bowling & Billiards Corporation's Motion for Summary Judgment on Obviousness filed April 6, 1999.

c. Difference Between Claims and Prior Art

The primary difference between the prior and claims 24 and 32 in the Patent are the precise gravity ranges set forth in those claims. As explained above, Plaintiff fails to demonstrate how that particular range is critical to the invention such that it produces "unexpected results relative to the prior art range." In re Woodruff, 919 F. 2d 1575, 1578 (Fed. Cir. 1990) (citations omitted).

d. Secondary Considerations

The allegedly infringing bowling balls clearly achieved commercial success, and advertisements for those balls emphasized the very factors that Plaintiff claims motivated his invention. Nevertheless, these elements provide insufficient grounds to sustain the validity of the Patent.

The Patent is therefore invalid on obviousness grounds.

B. Remaining Motions Involving Defendant Brunswick

In light of the discussion above, Plaintiff's motion to dismiss defendant Brunswick's affirmative defenses, defendant Brunswick's motion to bifurcate, Plaintiff's motion to compel discovery and defendant Brunswick's cross-motion to compel are all denied as moot.

C. Defendant Columbia 300, Inc.'s Motions

Defendant Columbia 300, Inc.'s motion to strike Plaintiff's cross-motion to compel Defendants to comply with discovery demands is denied as moot.

Defendant Columbia also seeks sanctions against Plaintiff. Although correct that Plaintiff's memorandum of law exceeded the limit set in the Local Rules, principles of judicial economy, the parties' patience in awaiting this Court's determination of these motions, and the approaching trial date dictated that the Court, in this exceptional instance, review the submitted materials. Contrary to defendant Columbia's contentions, Plaintiff's

summary judgment motion was hardly without foundation, and Fed. R. Civ. P. 11 sanctions inapplicable.

III. CONCLUSION

The Court does not contest the contributions made by Plaintiff, but must conclude that based on the state of art then existing at the time he filed his application that the Patent was void for obviousness.

Accordingly, it is hereby,

ORDERED that defendant Brunswick's motion for summary judgment on the grounds of obviousness is GRANTED and the case DISMISSED in its entirety against defendant Brunswick;

ORDERED that Plaintiff's motion for summary judgment is DENIED;

ORDERED that Plaintiff's motion to dismiss with prejudice is DENIED;

ORDERED that defendant Brunswick's motion to bifurcate the trial is DENIED as moot;

ORDERED that Plaintiff's motion to compel Defendants to comply with discovery demands is DENIED as moot;

ORDERED that defendant Brunswick's motion to strike is DENIED as moot;

ORDERED that defendant Plaintiff's cross-motion to compel Defendants to comply with discovery demands is DENIED as moot;

ORDERED that defendants Columbia and Brunswick's motions to strike Plaintiff's cross-motion to compel Defendants to comply with discovery demands is DENIED as moot;

ORDERED that defendant Columbia 300, Inc.'s

motion for sanctions against Plaintiff is DENIED; and it is

FURTHER ORDERED that the Clerk of the Court serve a copy of this order on all parties by regular mail.

IT IS SO ORDERED.

/s/_____
LAWRENCE E. KAHN
United States District Judge

Dated: November 1, 1999
Albany, New York

IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF NEW YORK

JOSEPH A. GENTILUOMO	)	
	)	
Plaintiff,	)	
	)	CIVIL ACTION
	)	NO. 96-CV-0544
vs.	)	
	)	Judge: LEK/RJS
BRUNSWICK BOWLING AND BILLIARDS CORPORATION, individually, and doing business as BRUNSWICK TECHNOLOGY VENTURES and doing business as QUANTUM, COLUMBIA 300, INC., individually, and doing business as TRACK, INC., PIN BREAKERS, INC., and ROTO-GRIP, INC.	)	

Defendants.

SUPPLEMENTAL AFFIDAVIT OF THOMAS P. KICHER

STATE OF NEW YORK)
) ss.:
COUNTY OF ALBANY)

THOMAS P. KICHER, being duly sworn, deposes and states:

7. I have noted plaintiff's claim, in paragraph 37 of his affidavit, that he asserts to be the "first" to discover the "phenomenon" of an increase in total kinetic energy output of a fixed weight ball by "removing weight from the outer portion of the ball" and "relocating said removed weight to within the inner portion" of the ball. I respectfully disagree that this "phenomenon (was) first discovered by Plaintiff." As noted above in paragraph 6 above, if a person desires to make a fixed weight ball, with a heavier core, from different materials, some weight will necessarily be "removed" from the outer portion and "relocated" to the inner portion. This is a matter of mechanical design and is not a "phenomenon" at all. In fact, the mathematical equations relating to a rolling body, such as a bowling ball, are a matter of basic mechanics and were well known decades before 1980. When those well-known equations are applied to a ball having a heavier core and a lighter surrounding cover, one can readily calculate that such a ball would necessarily have a lower moment of inertia.

Dated: 3/3/99

/s/_____
Thomas P. Kicher

Subscribed and sworn to before
me on this 3rd day of May,
1999 by Thomas P. Kicher

/s/_____
NOTARY PUBLIC
My Commission Expires: 5/27/03

IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF NEW YORK

JOSEPH A. GENTILUOMO Plaintiff, vs. BRUNSWICK BOWLING AND BILLIARDS CORPORATION, individually, and doing business as BRUNSWICK TECHNOLOGY VENTURES and doing business as QUANTUM, COLUMBIA 300, INC., individually, and doing business as TRACK, INC., PIN BREAKERS, INC., and ROTO-GRIP, INC. Defendants.	CIVIL ACTION NO. 96-CV-0544 Judge: LEK/RJS

AFFIDAVIT OF THOMAS P. KICHER

STATE OF NEW YORK)
) ss.:
COUNTY OF ALBANY)

THOMAS P. KICHER, being duly sworn, deposes and states:

19. Any increase in the total kinetic energy in a

bowling ball occasioned by a lower moment of inertia, (as alleged in the '614 patent), would be a phenomenon inherent in the heavier centered prior art bowling balls.

20. It is my opinion, in view of the teachings of the Randolph '071 and '277 patents, the prior art balls cited by the patentee in his Reissue Declaration and also in view of the existence of well established principles of mechanics and the applicable mathematical formulas, that a person of ordinary skill in the art would know that use of the densities claimed by the patentee would produce completely predictable, obvious results.

21. It is well known in the trade that bowling balls must be provided with appropriately located interior weighting to compensate for the loss of material that occurs when finger holes are drilled into the ball. This '614 patent provides the extra weight in the form of top weight mass 7 which is close to or part of inner core 6, thus causing the weight center of core 6 to be offset from the ball geometric center. Randolph patents '277 and '071 (Exhs D, J) show constructions having cores 45 and 10, respectively, in which the core is shaped to perform the same function as the core 6 and ring 7. I am of the opinion that the use of a weight like the ring 7 of '614 would be a completely obvious construction in view of the 277 and '071 patent.

I declare under the penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 10/29/98

/s/_____

Thomas P. Kicher

Subscribed and sworn to before
me on this 29th day of October,
1998 by Thomas P. Kicher

/s/_____
NOTARY PUBLIC

My Commission Expires: 5/27/03

IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF NEW YORK

JOSEPH A. GENTILUOMO Plaintiff, vs. BRUNSWICK BOWLING AND BILLIARDS CORPORATION, individually, and doing business as BRUNSWICK TECHNOLOGY VENTURES and doing business as QUANTUM, COLUMBIA 300, INC., individually, and doing business as TRACK, INC., PIN BREAKERS, INC., and ROTO-GRIP, INC. Defendants.	CIVIL ACTION NO. 96-CV-0544 Judge: LEK/RJS

AFFIDAVIT OF HENRY J. SNECK, Ph. D

STATE OF NEW YORK)
) ss.:
COUNTY OF ALBANY)

HENRY J. SNECK, being duly sworn, deposes and states:

1. I am a Ph. D. in Mechanical Engineering, having

received that degree from Rennselaer Polytechnic Institute ("RPI") in 1963. Previously, I received my Masters in Engineering from Yale University in 1952, and my Bachelor or Science in Mechanical Engineering from RPI in 1951.

2. I am presently a Professor Emeritus at Rensselaer Polytechnic Institute. I have been an Instructor, Assistant Professor, Associate Professor, Professor, Visiting Professor and Professor Emeritus and Consultant to Industry at the Watervliet Arsenal, Watervliet, New York; General Electric Company, Schenectady, New York; the Aeronautical Engineering and Mechanic School at Rennselaer Polytechnic Institute, the United States Air Force Academy in Colorado Springs, Colorado, and he U.S. Military Academy, West Point, New York. Since 1951, I have been actively engaged in the field of Mechanical Engineering. I am a member of the American Society of Tribologists and the Lubrication Engineers. I am Fellow of the American Society of Mechanical Engineers and a Fellow of the Society of Tribologists and Lubrication Engineers.

3. My curriculum vitae is annexed hereto as Exhibit A. I respectfully submit that based on my education and experience, I am well qualified to offer an expert opinion on the scientific aspects of this case, specifically those involving the application of principals of dynamics in the field of Mechanical Engineering.

4. In connection with this matter, I have reviewed RE 34,614 ('614 Patent"), the Randolph '071 Patent, the Randolph '369 Patent, the Randolph '277 Patent, the Affidavit of Thomas Kicher and the Supplemental Affidavit of Thomas Kicher. I have also reviewed the specifications and calculations made by the American

Bowling Congress (ABC) and the equations of the Plaintiff, Joseph Gentiluomo.

5. I submit this Affidavit in support of Plaintiff, Joseph Gentiluomo's Motion seeking a determination that the invention claimed in the '614 Patent is valid, more specifically, in that the invention claimed in the '614 Patent would not have been obvious at the time Plaintiff arrived at the invention claimed in the '614 Patent.

THE '614 PATENT WAS NOT OBVIOUS

6. This Court should be advised that the principles of physics have been well known since the days of Sir Isaac Newton. The principles of dynamic response are known on a theoretical basis. The true art of invention is the application of those theories to novel devices.

7. Based on my review of the Randolph patents, it appears to me that as of 1980, the "level of skill" in the "art," of manufacturing bowling balls as far as physics goes, was quite basic.

8. What is new and different in this inventive process is the application of these known scientific principles to a new device or "invention"--a new type of bowling ball/group of bowling balls which were first conceived by the Plaintiff. It is the combination of old elements or ideas (including established laws of physics) combined in a new fashion which comprises invention.

9. With respect to the '614 patent, based on an analysis of all relevant prior art, the '614 patent was the first to disclose what effect specific gravities of the core and encapsulating mass would have on the terminal kinetic energy. No one in the prior art discussed the impact of specific gravities of the core and encapsulating

mass on the terminal kinetic energy of a bowling ball.

10. A specific analysis of the prior art is set forth below:

Randolph '071

At the outset, the '071 Patent reveals that Randolph did not understand the physics of the so-called teaching. Randolph stated that: "That reason for this improvement [in bowling score] is believed to be that certain bowlers need balls with a minimum rotational inertia or "fly-wheel" effect around the axis passing through the top where the ball is held, so that a change in the direction of rolling toward the "pocket" is not impeded by a "fly-wheel" effect around that axis. Nevertheless, the scope of the invention should not be limited by this attempted explanation..." *Randolph '071 at Col. 4, 2.1-8.* Clearly, Randolph did not actually know the physics of his own "invention."

In the first instance, Randolph discusses two different moments of inertia. In fact, Randolph, in referring to both, discloses an increase in moment of inertia to assist a skilled bowler, and a decrease in a moment of inertia which might be favorable to other bowlers (presumably bowlers with less skill).

In addition, the Randolph '071 patent would actually produce a fly wheel effect, which teaches away from the concept set forth in Gentiluomo's '614 patent. The Randolph '071 patent has different moments of inertia depending on which axis of the bowling ball is examined. On the other hand, the moment of inertia in the '614 patent is the same regardless of which axis. Another critical difference is that is that the '071 patent, the center of gravity is not at the geometric center of the body (the bowling ball), whereas, in the Gentiluomo

patent, the center of gravity is at or near the geometric "center" of the bowling ball.

The '071 (Randolph) patent is devoid of any discussion or consideration of the impact of a lower moment of inertia on the terminal kinetic energy. The '614 patent discloses, for the first time, a bowling ball which retains a much higher percentage of the initial kinetic energy than ever previously disclosed. The '614 patent therefore, teaches one skilled in the construction of bowling balls that if one were to desire maintaining a higher percentage of the initial kinetic energy (the kinetic energy which the ball has upon release), then one would need to construct a ball in accordance with Gentiluomo's ('614) invention. This disclosure was absolutely novel.

Randolph '369

This invention teaches away from the '614 patent. In fact, it teaches the opposite effect of that set forth in the '614 patent in that the '369 patent adds weight to the outer surface to increase (as opposed to decrease) the moment of inertia. There is no mention whatsoever of kinetic energy. The '369 patent claims that it is better than other bowling balls, but there is no disclosure of any reason that this might be true, and there is no discussion of the physics of that ball.

Randolph '277

The '277 patent was concerned primarily, if not exclusively, with increasing the coefficient of friction. The '277 patent infers that increasing and lowering the moments of inertia are beneficial, while the '614 is exclusively dedicated to lowering the moment of inertia. Furthermore, '277 does not disclose how to lower the moment of inertia to obtain the advantage of the '614 Patent. Another "teaching away" from the '614 patent set forth in the '277 patent is that the '277 patent claims that

both an increase in the moment of inertia and a decrease in the moment of inertia will be beneficial depending on who the bowler is. In the '614 patent, it is claimed that the lowering of a moment of inertia would help the skilled and unskilled bowler alike in that, in either case, the terminal kinetic energy will be greater than a prior art bowling ball.

11. Based on the foregoing, it is clear that no one prior to Gentiluomo ever considered (or was motivated to consider) how to increase the kinetic energy of a bowling ball. Gentiluomo had to go through the "modeling" of a proposed and novel bowling ball with a dense inner core and lighter encapsulating mass (which was necessary to maintain the overall mass of the ball). None of the aforementioned references had ever done this before. Gentiluomo postulating, in his mind, that if the bowling ball ceased "sliding" on the oiled portion of the lane sooner than prior art bowling balls, the new bowling ball would maintain more of its kinetic energy and deliver a greater and more powerful "punch" when the ball hit the bowling pins. (No amount of testing would necessarily prove out this theory.) It took an inventor such a Gentiluomo to arrive at this conclusion.

THE GENTILUOMO BALL DISCLOSED IN THE '614 PATENT WORKS

12. I personally conducted an analysis of the bowling ball disclosed in the in the '614 patent, and have concluded, within a reasonable degree of certainty in the field of Mechanical Engineering that the '614 ball actually works as stated in the '614 Patent. Simply stated, I have confirmed through scientific analysis that the '614 ball

works the way that Joseph Gentiluomo states in this patent. In summary, the '614 ball stops slipping faster than the prior bowling balls, thereby saving more of the kinetic energy which the ball had upon release. As a matter of physics, the slipping action of a ball while it slides over the lane immediately upon release is a waste of energy. The sooner the bowling ball stops slipping on the lane and the sooner the bowling ball starts to roll without slipping, the more energy the ball will retain for the balance of its trip down the lane.

13. I confirmed the American Bowling Congress (("ABC") calculations and test results as set forth in Exhibit M to Gentiluomo's January 12, 1999 Affidavit. In the first example, the high moment of inertia ball loses 47 foot pounds of force when compared to a lower moment of inertia which only loses 38 foot pounds of force between the time it is released and the time it impacts.

14. In the other examples set forth in Exhibit M to Gentiluomo's January 12, 1999 Affidavit, I have confirmed the ABC calculations and test results. That is, a bowling ball with a high moment of inertia loses 30 foot pounds of kinetic energy, while a bowling ball with a low moment of inertia only loses 26 foot pounds between the time it is released and the time it impacts. Therefore, the balls with the low moment of inertia is delivered to the pins with more kinetic energy than the ball with the high moment of inertia.

15. The measure of the quality of the design set forth in the '614 patent is the fact that the '614 bowling ball has much more energy remaining when the ball reaches the pins.

16. I have seen nothing in the Affidavits of the Defendant's expert (Thomas Kicher) which would

indicate otherwise. In fact, Kicher blithely states that it is "obvious" that a ball with a lower moment of inertia will effect an increased in total kinetic energy. It certainly was not obvious to me when I was engaged to provide an expert opinion in this case. In contrast, I spent many hours confirming that, as a matter of fact, the disclosure set forth in the '614 patent was accurate.

17. Wherefore, it is respectfully submitted that the Defendant's Motion for Summary Judgment based on the alleged "obviousness" of the '614 patent should be denied.

I declare under the penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

/s/_____
Henry J. Sneck

Subscribed and sworn to before
me this 31st day of March, 1999.

/s/_____
Notary Public
My Commission Expires: 11/99

IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF NEW YORK

JOSEPH A. GENTILUOMO	)	
	)	
Plaintiff,	)	
	)	CIVIL ACTION
	)	NO. 96-CV-0544
vs.	)	
	)	Judge: LEK/RJS
BRUNSWICK BOWLING AND BILLIARDS CORPORATION, individually, and doing business as BRUNSWICK TECHNOLOGY VENTURES and doing business as QUANTUM, COLUMBIA 300, INC., individually, and doing business as TRACK, INC., PIN BREAKERS, INC., and ROTO-GRIP, INC.	)	

Defendants.

PLAINTIFF'S AFFIDAVIT IN SUPPORT OF SUMMARY JUDGMENT MOTION

STATE OF NEW YORK)
) ss.:
COUNTY OF ALBANY)

JOSEPH A. GENTILUOMO, being duly sworn, deposes and states:

1. I am the plaintiff in this patent infringement lawsuit, and I have personal knowledge of the facts. I am also and expert in physics, having earned my Bachelors of Science Degree in Mechanical Engineering from Rensselaer Polytechnic Institute ("RPI") in Troy, New York, and having thereafter completed the then-equivalent of a Masters of Science Degree in Physics through Additional course work while employed as a design engineer by General Electric Company. In addition, I worked for Ford Motor Company (1953-1954), International Business Machines (1954-1955), General Electric (1955-1961), Mechanical Technology, Inc. (1962-1965), and the Watervliet Arsenal (1970-1986) as an engineer and inventor. During this time I invented devices such as an automatic television testing machine, a hydrodynamic thrust bearing, an obturator system for large caliber weapons, a hydrodynamic pressurizing apparatus for testing 105 mm breech assemblies, and conducted development work on the Polaris submarine and on General Electric nuclear engines. In 1960, I began to independently study patent law and I have prosecuted 25 patents on my own. I hold 22 patents issued by the United States Patent and Trademark Office ("PTO").

14. As shown in Exhibit "H," the prior art fails to teach or suggest the features disclosed in claims 24(b) and 32(b) of the '614 patent. In particular, the prior art fails to teach a bowling ball having a molded encapsulated mass surrounding the inner core, having a specific gravity ranging from 1.195 to 0.38 for an 8 to 16 pound ball, which effectuates a decrease in the ball's moment of inertia. In order for the specific gravity of the material adjacent to the inner core to range from 1.195 to 0.38 for

a fixed weight ball, weight must be removed from the outer portion and relocated within the inner portion of the ball. However, no mention of varying specific gravity values of the encapsulated mass is made in the prior art as shown on the claims chart. In other words, none of the prior art references envisioned decreasing the ball's moment of inertia by removing weight from the outer portion of a fixed weight ball and subsequently relocating the weight to the inner portion of the ball.

15. The prior art as shown in the claims chart of Exhibit "H" does not teach/suggest the increase of total kinetic energy of a fixed weight ball by increasing the density of the inner core thereby producing a decreasing the moment of inertia, as in claim 24(d). Further the prior art fails to teach the selection of inner core and encapsulating mass materials based on specific gravity values in order to effectuate an increase in total kinetic energy, as in claim 32(e). These functional limitations convey to a person skilled in the art, that by decreasing the moment of inertia of a fixed weight ball, the total kinetic energy output of the ball increases. However, none of the prior art references disclose the teachings of the '614 patent. In fact, column 6, lines 5-12 of prior art patent '277 teach a ball having a "core of lighter material than that which surrounds it, to reduce the moment of inertia of the ball." Likewise, prior art patent '071 incorporates by reference the teaching of '277.

36. With regard to paragraph 19, Mr. Kicher's statement that "Any increase in total kinetic energy in a bowling ball occasioned by a lower moment of inertia (as alleged in the '614 patent), would be a phenomenon inherent in the heavier centered prior art bowling ball," is erroneous. The prior art teaches the lowering of ball

moment of inertia by decreasing the weight or density of the ball's center which results in a decrease in ball weight, and a decreasing total kinetic energy output. See '277 patent col. 5, lines 51-54 and col. 6, lines 5-8.

37. The increase in total kinetic energy output of a fixed weight bowling ball as it travels down a bowling lane is obtained by design-wise removing weight from the outer portion of the ball and design-wise relocating said removed weight to within the inner portion of the prior art ball, is a phenomenon first discovered by Plaintiff. If Mr. Kicher is trying to infer that Plaintiff's claimed concept is obvious, he should have provided prior art that teaches or suggests Plaintiff's claimed concept.

38. It should also be noted that Mr. Kicher's statement, cited supra, is contrary to Brunswick's position taken in response to Plaintiff's interrogatory No. 7. Brunswick's response to said interrogatory was that their allegedly infringing dense inner core bowling balls do not function to provide an increase in total kinetic energy output over their less dense inner core type balls they manufactured prior to July 24, 1980. Now, how can an increase in total kinetic energy output of Plaintiff's claimed bowling balls be a phenomenon inherent in heavy center bowling balls, when Brunswick stated that their alleged infringing heavy center type bowling balls do not provide an increase in total kinetic energy output over lower density type balls they manufactured prior to July 24, 1980?

I declare under the penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 1/12/99

/s/_____
Joseph A. Gentiluomo

Subscribed and sworn to before me this 12th day of February, 1999 by Joseph A. Gentiluomo.

/s/_____
NOTARY PUBLIC

My Commission Expires: 2/20/2000

IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF NEW YORK

JOSEPH A. GENTILUOMO	)	
	)	
Plaintiff,	)	
	)	CIVIL ACTION
	)	NO. 96-CV-0544
vs.	)	
	)	
BRUNSWICK BOWLING AND BILLIARDS CORPORATION, individually, and doing business as BRUNSWICK TECHNOLOGY VENTURES and doing business as QUANTUM, COLUMBIA 300, INC., individually, and doing business as TRACK, INC., PIN BREAKERS, INC., and ROTO-GRIP, INC.	)	
	)	

Defendants.

BRUNSWICK'S OBJECTIONS AND RESPONSES TO PLAINTIFF GENTILUOMO'S FIRST SET OF INTERROGATORIES FOR BRUNSWICK BOWLING & BILLIARDS CORPORATION

Interrogatory No. 7: State whether Brunswick believes that their allegedly infringing bowling balls function such as to provide an increase in total kinetic energy output, when compared to balls Brunswick manufactured prior to July 24, 1980.

OBJECTIONS: See General Objection 7.

RESPONSE: No.

Date: September 21, 1998

Respectfully Submitted,

/s/_____

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Attorneys for BRUNSWICK BOWLING & BILLIARDS CORPORATION the Defendants

United States Constitution Article I, § 8, Clause 8

To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.

United States Constitution,
Fourteenth Amendment, §§ 1, 5

All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the State wherein they reside. No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any State deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws.

Sec. 5. [Power to enforce amendment.]

The Congress shall have power to enforce, by appropriate legislation, the provisions of this article.

28 U.S.C. § 1254

§ 1254. Courts of appeals; certiorari; certified questions

Cases in the courts of appeals may be reviewed by the Supreme Court by the following methods:
(1) By writ of certiorari granted upon the petition of any party to any civil or criminal case, before or after

rendition of judgment or decree;
(2) By certification at any time by a court of appeals of any question of law in any civil or criminal case as to which instructions are desired, and upon such certification the Supreme Court may give binding instructions or require the entire record to be sent up for decision of the entire matter in controversy.

35 U.S.C. §§ 103, 271, and 282

§ 103. Conditions for patentability; non-obvious subject matter

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

(b) (1) Notwithstanding subsection (a), and upon timely election by the applicant for patent to proceed under this subsection, a biotechnological process using or resulting in a composition of matter that is novel under section 102 and nonobvious under subsection (a) of this section shall be considered nonobvious if--
(A) claims to the process and the composition of matter are contained in either the same application for patent or in separate applications having the same effective

filing date; and
(B) the composition of matter, and the process at the time it was invented, were owned by the same person or subject to an obligation of assignment to the same person.
(2) A patent issued on a process under paragraph (1)--
(A) shall also contain the claims to the composition of matter used in or made by that process, or
(B) shall, if such composition of matter is claimed in another patent, be set to expire on the same date as such other patent, notwithstanding section 154.
(3) For purposes of paragraph (1), the term "biotechnological process" means--
(A) a process of genetically altering or otherwise inducing a single- or multi-celled organism to--
(i) express an exogenous nucleotide sequence,
(ii) inhibit, eliminate, augment, or alter expression of an endogenous nucleotide sequence, or
(iii) express a specific physiological characteristic not naturally associated with said organism;
(B) cell fusion procedures yielding a cell line that expresses a specific protein, such as a monoclonal antibody; and
(C) a method of using a product produced by a process defined by subparagraph (A) or (B), or a combination of subparagraphs (A) and (B).

(c) Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by

the same person or subject to an obligation of assignment to the same person.

§ 271. Infringement of patent

(a) Except as otherwise provided in this title [35 USCS §§ 1 et seq.], whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.

(b) Whoever actively induces infringement of a patent shall be liable as an infringer.

(c) Whoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

(d) No patent owner otherwise entitled to relief for infringement or contributory infringement of a patent shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of his having done one or more of the following: (1) derived revenue from acts which if performed by another

without his consent would constitute contributory infringement of the patent; (2) licensed or authorized another to perform acts which if performed without his consent would constitute contributory infringement of the patent; (3) sought to enforce his patent rights against infringement or contributory infringement; (4) refused to license or use any rights to the patent; or (5) conditioned the license of any rights to the patent or the sale of the patented product on the acquisition of a license to rights in another patent or purchase of a separate product, unless, in view of the circumstances, the patent owner has market power in the relevant market for the patent or patented product on which the license or sale is conditioned.

(e) (1) It shall not be an act of infringement to make, use, offer to sell, or sell within the United States or import into the United States a patented invention (other than a new animal drug or veterinary biological product (as those terms are used in the Federal Food, Drug, and Cosmetic Act and the Act of March 4, 1913) which is primarily manufactured using recombinant DNA, recombinant RNA, hybridoma technology, or other processes involving site specific genetic manipulation techniques) solely for uses reasonably related to the development and submission of information under a Federal law which regulates the manufacture, use, or sale of drugs or veterinary biological products.
(2) It shall be an act of infringement to submit--
(A) an application under section 505(j) of the Federal Food, Drug, and Cosmetic Act [21 USCS § 355(j)] or described in section 505(b)(2) of such Act [21 USCS §

355(b)(2)] for a drug claimed in a patent or the use of which is claimed in a patent, or
(B) an application under section 512 of such Act [21 USCS§ 360b] or under the Act of March 4, 1913 (21 U.S.C. 151-158) for a drug or veterinary biological product which is not primarily manufactured using recombinant DNA, recombinant RNA, hybridoma technology, or other processes involving site specific genetic manipulation techniques and which is claimed in a patent or the use of which is claimed in a patent, if the purpose of such submission is to obtain approval under such Act to engage in the commercial manufacture, use, or sale of a drug or veterinary biological product claimed in a patent or the use of which is claimed in a patent before the expiration of such patent.
(3) In any action for patent infringement brought under this section, no injunctive or other relief may be granted which would prohibit the making, using, offering to sell, or selling within the United States or importing into the United States of a patented invention under paragraph (1).
(4) For an act of infringement described in paragraph (2)–
(A) the court shall order the effective date of any approval of the drug or veterinary biological product involved in the infringement to be a date which is not earlier than the date of the expiration of the patent which has been infringed,
(B) injunctive relief may be granted against an infringer to prevent the commercial manufacture, use, offer to sell, or sale within the United States or importation into the United States of an approved drug or veterinary

biological product, and
(C) damages or other monetary relief may be awarded against an infringer only if there has been commercial manufacture, use, offer to sell, or sale within the United States or importation into the United States of an approved drug or veterinary biological product.
The remedies prescribed by subparagraphs (A), (B), and (C) are the only remedies which may be granted by a court for an act of infringement described in paragraph (2), except that a court may award attorney fees under section 285.

(f) (1) Whoever without authority supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.
(2) Whoever without authority supplies or causes to be supplied in or from the United States any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use, where such component is uncombined in whole or in part, knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

(g) Whoever without authority imports into the United States or offers to sell, sells, or uses within the United States a product which is made by a process patented in the United States shall be liable as an infringer, if the importation, offer to sell, sale, or use of the product occurs during the term of such process patent. In an action for infringement of a process patent, no remedy may be granted for infringement on account of the noncommercial use or retail sale of a product unless there is no adequate remedy under this title for infringement on account of the importation or other use, offer to sell, or sale of that product. A product which is made by a patented process will, for purposes of this title, not be considered to be so made after--
(1) it is materially changed by subsequent processes; or
(2) it becomes a trivial and nonessential component of another product.

(h) As used in this section, the term "whoever" includes any State, any instrumentality of a State, and any officer or employee of a State or instrumentality of a State acting in his official capacity. Any State, and any such instrumentality, officer, or employee, shall be subject to the provisions of this title in the same manner and to the same extent as any nongovernmental entity.

(i) As used in this section, an "offer for sale" or an "offer to sell" by a person other than the patentee, or any designee of the patentee, is that in which the sale will occur before the expiration of the term of the patent.

§ 282. Presumption of validity; defenses

A patent shall be presumed valid. Each claim of a patent (whether in independent, dependent, or multiple dependent form) shall be presumed valid independently of the validity of other claims; dependent or multiple dependent claims shall be presumed valid even though dependent upon an invalid claim. Notwithstanding the preceding sentence, if a claim to a composition of matter is held invalid and that claim was the basis of a determination of nonobviousness under section 103(b)(1), the process shall no longer be considered nonobvious solely on the basis of section 103(b)(1). The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity.

The following shall be defenses in any action involving the validity or infringement of a patent and shall be pleaded:
(1) Noninfringement, absence of liability for infringement or unenforceability,
(2) Invalidity of the patent or any claim in suit on any ground specified in part II of this title [35 USCS §§ 100 et seq.] as a condition for patentability,
(3) Invalidity of the patent or any claim in suit for failure to comply with any requirement of sections 112 or 251 of this title.
(4) Any other fact or act made a defense by this title.

In actions involving the validity or infringement of a patent the party asserting invalidity or noninfringement shall give notice in the pleadings or otherwise in writing to the adverse party at least thirty

days before the trial, of the country, number, date, and name of the patentee of any patent, the title, date, and page numbers of any publication to be relied upon as anticipation of the patent in suit or, except in actions in the United States Claims Court [United States Court of Federal Claims], as showing the state of the art, and the name and address of any person who may be relied upon as the prior inventor or as having prior knowledge of or as having previously used or offered for sale the invention of the patent in suit. In the absence of such notice proof of the said matters may not be made at the trial except on such terms as the court requires. Invalidity of the extension of a patent term or any portion thereof under section 154(b) or 156 of this title because of the material failure–
(1) by the applicant for the extension, or
(2) by the Director,

to comply with the requirements of such section shall be a defense in any action involving the infringement of a patent during the period of the extension of its term and shall be pleaded. A due diligence determination under section 156(d)(2) is not subject to review in such an action.

Federal Rules of Civil Procedure, Rule 56(c)

Rule 56. Summary Judgment

(a) For Claimant. A party seeking to recover upon a claim, counterclaim, or cross-claim or to obtain a declaratory judgment may, at any time after the expiration of 20 days from the commencement of the action or after service of a motion for summary

judgment by the adverse party, move with or without supporting affidavits for a summary judgment in the party's favor upon all or any part thereof.

(b) For Defending Party. A party against whom a claim, counterclaim, or cross-claim is asserted or a declaratory judgment is sought may, at any time, move with or without supporting affidavits for a summary judgment in the party's favor as to all or any part thereof.

(c) Motion and Proceedings Thereon. The motion shall be served at least 10 days before the time fixed for the hearing. The adverse party prior to the day of hearing may serve opposing affidavits. The judgment sought shall be rendered forthwith if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law. A summary judgment, interlocutory in character, may be rendered on the issue of liability alone although there is a genuine issue as to the amount of damages.

(d) Case Not Fully Adjudicated on Motion. If on motion under this rule judgment is not rendered upon the whole case or for all the relief asked and a trial is necessary, the court at the hearing of the motion, by examining the pleadings and the evidence before it and by interrogating counsel, shall if practicable ascertain what material facts exist without substantial controversy and what material facts are actually and in good faith controverted. It shall thereupon make an

order specifying the facts that appear without substantial controversy, including the extent to which the amount of damages or other relief is not in controversy, and directing such further proceedings in the action as are just. Upon the trial of the action the facts so specified shall be deemed established, and the trial shall be conducted accordingly.

(e) Form of Affidavits; Further Testimony; Defense Required. Supporting and opposing affidavits shall be made on personal knowledge, shall set forth such facts as would be admissible in evidence, and shall show affirmatively that the affiant is competent to testify to the matters stated therein. Sworn or certified copies of all papers or parts thereof referred to in an affidavit shall be attached thereto or served therewith. The court may permit affidavits to be supplemented or opposed by depositions, answers to interrogatories, or further affidavits. When a motion for summary judgment is made and supported as provided in this rule, an adverse party may not rest upon the mere allegations or denials of the adverse party's pleading, but the adverse party's response, by affidavits or as otherwise provided in this rule, must set forth specific facts showing that there is a genuine issue for trial. If the adverse party does not so respond, summary judgment, if appropriate, shall be entered against the adverse party.

(f) When Affidavits are Unavailable. Should it appear from the affidavits of a party opposing the motion that the party cannot for reasons stated present by affidavit facts essential to justify the party's opposition, the court

may refuse the application for judgment or may order a continuance to permit affidavits to be obtained or depositions to be taken or discovery to be had or may make such other order as is just.

(g) Affidavits Made in Bad Faith. Should it appear to the satisfaction of the court at any time that any of the affidavits presented pursuant to this rule are presented in bad faith or solely for the purpose of delay, the court shall forthwith order the party employing them to pay to the other party the amount of the reasonable expenses which the filing of the affidavits caused the other party to incur, including reasonable attorney's fees, and any offending party or attorney may be adjudged guilty of contempt.